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THE ARCHITECTURAL JOURNAL

BEING THE JOURNAL OF

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

VOL. VIII. THIRD SERIES, 1901



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PRESIDENT OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

Yours sincerely
W. Emerson

JOURNAL
OF
THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

NOVEMBER 1900—OCTOBER 1901



VOLUME VIII. THIRD SERIES

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- HEDDERWICK & SONS (J.) the Publishers—WATSON (T. L.)—The double choir of Glasgow Cathedral. 40. Glasgow 1901
- HIS MAJESTY'S COMMISSIONERS. Paris International Exhibition 1901. Report. 2 vols. 80. Lond. 1901
- HOPE (W. H. ST. JOHN) Gilbertine Priory of Watton. pam. 80. Lond. 1901
- Architectural history of the cathedral church and monastery of St. Andrew at Rochester. 80. Lond. 1900
- INDIAN GOVERNMENT—Archæological Survey. List of antiquarian remains in His Highness the Nizam's territories. 40. Calcutta 1900
- N. W. Provinces and Oudh. Progress report. fo. Allahabad 1900
- INGELOW (B.) *Fellow*—MURRAY (J. A. H.)—New English Dictionary. (*In progress.*) fo. Lond. 1900-01
- KOCH (A.)—Academy architecture, vol. 19. fo. Lond. 1901
- LOCAL GOVERNMENT BOARD—Model By-laws iv. (Rural Districts.) 80. Lond. 1901
- LONDON COUNTY COUNCIL—STEWART (C. J.)—Housing question in London 1855-1900. 80. Lond. 1900
- LONDON COUNTY COUNCIL—Designs for Holborn to Strand Improvements. ob. fo. Lond. 1901
- LONGMANS & CO. (Messrs.) the Publishers—MORRIS (Wm.)—Architecture and history and Westminster Abbey. 80. Lond. —
- MUTHESIUS (H.)—Die Englische Baukunst der Gegenwart. Pt. 1. fo. Leipzig 1900
- Die neuere kirchliche Baukunst in England. sm. fo. Berlin 1901
- OLIVER (A.) *Associate*—CRUNDEN (J.)—Convenient and ornamental architecture. 40. Lond. 1767
- DONALDSON (T. L.)—Doorways. 40. Lond. 1833
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- MOISY () and DUVAL (A. P.)—Fontaines de Paris. fo. Paris 1812
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- TRANSACTIONS, REPORTS, AND PROCEEDINGS OF SOCIETIES, &c.
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- Maatschappij tot Bevordering der Bouwkunst.—Afbeeldingen van oude bestaande Gebouwen. la. fo. The Hague 1900
- Weekblad. fo. Amst. 1900-1901
- Bouwkundig Tijdschrift. fo. Amst. 1900-1901
- BERLIN—Architekten-Verein.—Zeitschrift für Bauwesen. fo. Berlin 1900-1901
- Entwürfe. fo. Berlin 1900
- BOSTON, U.S.A.—Massachusetts Institute of Technology. Technology Quarterly. la. 80. Boston 1900
- BRISTOL—Society of Architects—By-laws as revised A.D. 1900. 80. Bristol 1900
- BRUSSELS—Annuaire. sm. 80. Brussels 1900
- Société d'Archéologie de Bruxelles.—Annuaire. pam. sm. 80. Brussels 1900
- Société Centrale d'Archéologie de Belgique.—L'Émulation. la. fo. Brussels 1900-1901
- CAEN—Société Française d'Archéologie.—Séances générales 1895-97. 80. Caen 1897-99
- CHRISTIANIA—Norsk Ingeniør- & Arkitekt-Forening.—Teknisk Ugeblad. 40. Christiania 1900-1901
- COLCHESTER—Essex Archæological Society.—Transactions. 80. Colchester 1901
- COPENHAGEN—Det Kongelige Nordiske Oldskrift-Selskab. Aarbøger for nordisk Oldkyndighed. Vol. xiv., No. 2. 80. Copenhagen 1900
- DUNDEE—Institute of Architecture, Science, and Art. Annual Reports 1898-1900. 80. Dundee 1900
- GLASGOW—Philosophical Society of Glasgow—Proceedings. 80. Glasgow 1900
- Architectural Association—Report 1899-1900. 40. Glasgow 1900
- GUILDFORD—Surrey Archæological Society Collections. Vol. xv. 80. Lond. 1900
- ITHACA—Cornell University—Specimens of Students' work.
- LEEDS—Yorkshire Archæological Society—Journal. No. 62. 80. Leeds 1901
- LEICESTER—Leicester and Leicestershire Society of Architects. 27th Annual Report, 1899-1900. pam. 80. Leeds 1901
- LINCOLN—Associated Architectural Societies.—Reports and papers. Vol. xxv. part 1. 80. Lincoln 1900
- LONDON—Architectural Association.—A. A. Notes. 40. Lond. 1900-1901
- Brown Book. sm. 80. Lond. 1901
- Sketch Book. la. fo. Lond. 1900-1901
- Carlton Club Library—Catalogue. la. 80. Lond. 1901
- Clergy & Artists' Association—Annual Report 1900. 80. Lond. 1901
- Institute of Chartered Accountants—List of Members 1901. 80. Lond. 1901
- Institution of Civil Engineers.—List of Members. 80. Lond. 1901
- Minutes of Proceedings. Vol. cxli. 80. Lond. 1901
- Institution of Mechanical Engineers.—Proceedings. 80. Lond. 1900
- Iron & Steel Institute.—Journal. 80. Lond. 1900
- Lodge Quatuor Coronati—Transactions. la. 80. Margate 1900
- Royal Archæological Institute.—Journal. 80. Lond. 1900-1901
- Royal Geographical Society.—Geographical Journal. la. 80. Lond. 1900-1901
- Royal Institution—Proceedings. 80. Lond. 1900
- Royal Society.—Proceedings. 80. Lond. 1900-1901

LONDON (*cont.*)—Sanitary Institute.—Journal.
80. Lond. 1900-1901
Society of Antiquaries.—Archæologia. Vol. lvii.
part 1. la. 40. Lond. 1900
Proceedings. 80. Lond. 1900
Society of Architects.—Journal.
40. Lond. 1900-1901
Society of Arts.—Journal. 80. Lond. 1900-1901
Society of Biblical Archæology.—Proceedings.
80. Lond. 1900-1901
Society of Engineers.—Transactions.
la. 80. Lond. 1900
Society of Medical Officers of Health.—Public
Health. 40. Lond. 1900-1901
Society for the Promotion of Hellenic Studies.—
Journal. sm. fo. Lond. 1900-1901
Surveyors' Institution.—Transactions.
80. Lond. 1900-1901
MADRID—Sociedad Española de Excursiones.—Boletín
No. 98. 40. Madrid 1901
MANCHESTER—Literary & Philosophical Society.—
Memoirs & proceedings. 80. Manch. 1900-1901
Steam Users' Association.—Memorandum of
Engineer. 80. Manch. 1900
MONTREAL—Canadian Society Civil Engineers. Trans-
actions. la. 80. Montreal 1900
NEWCASTLE-ON-TYNE—North of England Institute of
Mining & Mechanical Engineers.—Transac-
tions. la. 80. Newc.-on-Tyne 1900-1901
Northern Architectural Association—President's
address 80. Newc. 1900
PARIS—Société Centrale des Architectes.—Annuaire.
pam. 80. Paris 1901
L'Architecture. fo. Paris 1900-1901
École Spéciale d'Architecture.—Séance d'ouver-
ture. 80. Paris 1900
ROME—Commissione Archeologica Comunale. Bullettino.
la. 80. Rome 1901
British & American Archeological Society—
Journal. Vol. iii. No. 2. 40. Rome 1900
ST. PETERSBURG—Société Impériale des Architectes.—
L'Architecture. Vol. xxix. fo. St. Petersburg 1900
VERSAILLES—Association Provinciale des Architectes
Français. Annuaire. 80. Versailles 1899
Bulletin. fo. Versailles 1900-1901
VIENNA—Österreichischer Ingenieur- u. Architekten-
Verein.—Zeitschrift. la. 40. Vienna 1900-1901
WASHINGTON—American Institute of Architects.—
Quarterly Bulletin. 40. Washington 1901
Proceedings of 34th Annual Convention. 40. Washington 1900
WOLVERHAMPTON.—Architectural Association—Constitu-
tion and rules. 80. Wolverhampton 1901
YORKSHIRE ARCHÆOLOGICAL SOCIETY.—Journal.
la. 80. Lond. 1900
VARGAS (Don E. M. R. y)—Escuelas públicas de instruc-
cion primaria. pam. la. 80. Madrid 1878
Discursos leídos ante la Real Academia de Bellas Artes
de San Fernando. pam. la. 80. Madrid 1876
Efectos de los Terremotos de Andalucía en los edificios
y medios de aminorarlos. pam. 80. Madrid 1885
Memoria leída ante la Sociedad Central de Arquitectos.
pam. 80. Madrid 1877
El obrero en la sociedad. pam. 80. Madrid 1892
El simbolismo en la arquitectura cristiana. pam. 80. Madrid 1898
El Palacio de Torrijos. pam. 80. Madrid 1894
WADMORE (J. F.) Associate—Knight Hospitallers in Kent.
80. Lond. 1896
WAGNER (O.) *Hon. Corr. M.*—Einige Skizzen. Vol. iii.,
parts ii.-iv. fo. Vienna 1900-1901

WALKER (BENJ.) Associate—Some notes on Domesday
Book. la. 40. Walsall 1901
WEBB (W. A.) Associate—Relic of old London.
pam. 40. Lond. 1901
WHELLOCK (R. P.) Associate—Pure water for London.
pam. 80. Lond. 1900
WILDE (H.), D.Sc., F.R.S.—Correspondence with the
Society of Arts re Albert Medal 1900. pam. — 1900
WILLIAMS (R.) Fellow—Patriotism false and true.
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PURCHASES.

Books, Pamphlets, &c.

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ALLGEMEINE BAUZEITUNG (*in progress*).
fo. Vienna 1900-1901
ANON.—Gardens old and new; the country house and its
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BARNES (A. S.)—St. Peter in Rome and his tomb on the
Vatican Hill. la. 80. Lond. 1900
BELOE (E. M.)—King's Lynn. Our borough: our
churches. With an afterwork on the art of the Re-
naissance. 40. Cambridge 1899
CASTLE (EGERTON)—English book plates.
sm. fo. Lond. 1894
CORRELL (F.)—Deutsche Fachwerkbauten.
fo. Berlin 1900-01
DAVIS (G. B.) & DYE (F.)—Plumbing and sanitation.
40. Lond. 1898
DEHIO (G.) & BEZOLD (G. von)—Die kirchliche
Baukunst des Abendlandes. Text, Vol. ii., pts. 1 & 2.
(*in progress*) 80. Stuttgart 1901
Plates, part 8. fo. Stuttgart 1901
EDEN (H. K. F.) & LLOYD (E.)—Book of sun-dials
originally compiled by Mrs. A. Gatty. la. 80. Lond. 1900
ENLART (C.)—Origines françaises de l'architecture
gothique en Italie. 80. Paris 1894
Monuments religieux de l'architecture romane et de
transition dans la région Picarde. 40. Amiens 1895
ESQUIÉ (P.)—Traité élémentaire d'architecture, com-
prenant l'étude complète des cinq ordres, le tracé des
ombres et les premiers principes de construction. 40. Paris
GARNIER (C.)—A travers les arts; causeries et mélanges.
80. Paris 1869
GAZETTE DES BEAUX-ARTS (*in progress*).
80. Paris 1900-1901
GUÉRINET (A.)—L'architecture française: monuments
historiques depuis le xi^e siècle jusqu'à nos jours:
Intérieurs. fo. Paris [1900]
La sculpture décorative au palais des Tuileries, au
Louvre et à l'Hôtel de Paris. fo. Paris [1900]
Les palais des Beaux-Arts: architecture et sculpture.
(Exposition Universelle de 1900.) fo. Paris [1900]
LONDON TOPOGRAPHICAL SOCIETY—Illustrated
Record. Series 1 & 2. 40. Lond. 1898-1900
PARIS—Exposition Universelle de 1900. Exposition
Rétrospective de l'art Français des Origines à 1800:
Catalogue officiel illustré. 80. Paris 1900
PONTREMOLI (E.) & COLLIGNON (M.)—Pergame:
restauration et description des monuments de l'Acro-
pole. fo. Paris 1900
RAGUENET (A.)—Les principaux Palais de l'Exposition
Universelle de Paris, 1900. fo. Paris 1900
ROGER-MILES (L.)—Architecture, décoration, ameuble-
ment pendant le 18^me siècle. 80. Paris [1900]

- SAINT-PAUL (A.)—Histoire monumentale de la France.
la. 8o. Paris 1895
Viollet-Le-Duc; ses travaux d'art et son système
archéologique, 2nd ed. 8o. Paris 1881
SCOTT (G. G.)—History of English church architecture
prior to the separation of England from the Roman
obedience. 4o. Lond. 1881
STRACK (H.)—Baudenkmaeler des alten Rom.
fo. Berlin 1890
THIOLLIER (N. & F.)—L'architecture religieuse à
l'époque romane dans l'ancien diocèse du Puy.
fo. Le Puy [1900]
TILLSON (G. W.)—Street pavement and paving materials.
8o. New York 1900
UPMARK (G.)—Die Architektur der Renaissance in
Schweden, 1530-1760. fo. Dresden 1901
VERNON (A.)—Estate fences; their choice, construction,
and cost. 8o. Lond. 1899
WICKHOFF (F.)—Roman art: some of its principles and
their application to early Christian painting. Trans.
by Mrs. S. A. Strong. sm. fo. Lond. 1900
TOTAL: VOLUMES (*Exclusive of Periodicals and Parts of
Works issued in a serial form now in progress*), 29.

Drawings, &c.

- LONDON TOPOGRAPHICAL SOCIETY—View of Lon-
don. By Antony van den Wyngaerde. 7 sheets.
Lond. [1550]
Plan of London. By Hoefnagel. 1 sheet. Lond. [1572]
View of London. By Nicholas J. Visscher. 4 sheets.
Lond. 1616
Map of London. By T. Porter. 2 sheets. Lond. [1660]
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DONATIONS.

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stencil cutter. ob. 8o. Lond. —
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PURCHASES.

Books and Pamphlets.

- ADDY (S. O.)—Evolution of the English house.
8o. Lond. 1898
BIRKMIRE (W. H.)—Skeleton construction in buildings.
8o. N. York 1893

- BLOMFIELD (R.)—Short history of Renaissance archi-
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8o. Lond. 1900
BRIGGS (W. R.)—Modern American school buildings.
la. 8o. N. York 1899
COLLING (J. K.)—Gothic ornaments. 2 vols.
4o. Lond. [1848-50]
CRANE (W.)—Decorative illustration of books old and
new. 8o. Lond. 1901
CRANFIELD (S. W.) & POTTER (H. J.)—Housing of
the working classes. fo. Lond. 1900
CURTIS (C. E.)—Estate management. 5th ed.
8o. Lond. 1901
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MYER (F. S.)—Handbook of art smithing; with introduc-
tion by J. S. Gardner. 8o. Lond. 1896
NORMAND (C. J. P.)—New parallel of the orders of
architecture. Translated by A. Pugin. fo. Lond. 1829
PARIS—EXPOSITION UNIVERSELLE DE 1900—Exposition
Rétrospective de l'art Français des Origines à 1800:
Catalogue illustré. 8o. Paris 1900
PRIOR (E. S.)—Gothic art in England. (2 copies.)
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OF

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

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DATES OF PUBLICATION IN 1900-1901

Nov. 10, 24; Dec. 8, 22; Jan. 12, 26; Feb. 9, 23; Mar. 9, 23; Apr. 6, 27; May 11, 25; June 8, 22; July 27;
Aug. 31; Sept. 28; Oct. 12. *Quarterly Parts:* Jan. 16, Mar. 27, June 12, Oct. 16

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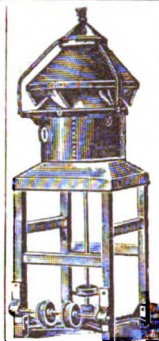
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THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

SESSION 1900-1901.

THE OPENING ADDRESS. Delivered by the President, Mr. WILLIAM EMERSON,
at the First General Meeting, Monday, 5th November 1900.

COLLEAGUES, LADIES, AND GENTLEMEN,—

ON taking this Chair at our first Sessional Meeting of the twentieth century, the sixty-sixth in our annals as a Chartered Institution, I find it difficult to express in suitable terms my high appreciation of the honour of being again elected to the office of President. I can only say it shall be my most earnest endeavour to advance the interest, promote the welfare, and enhance the influence of the Royal Institute of British Architects, and to uphold the dignity of the profession.

Our Session which commenced last November and ended last July was the last of the nineteenth century, and I then thought it opportune to review the architectural work of the century, its present aspect, its shortcomings, its vitality, and to consider what signs there are of the development of a characteristic national architecture in the future. The twentieth century may be an epoch of extraordinary evolution. May it not be an epoch in the history of the Art of Architecture?

There are many signs of quickening vitality in the architectural world, pointing to a new development. Should this be the case, it is but natural to suppose that the influence of the Royal Institute of British Architects on the profession, and through its members on the general public, will be a most important factor. A hundred years ago there was no Institute of this kind in connection with architecture in the United Kingdom. We received our Charter sixty-four years ago, when there were only 182 members enrolled. We now number in the various classes of membership a total of 1,745. Besides this, in our seventeen Allied Societies in the Provinces and Colonies, we have over 850 architects in federation with us, making in the aggregate nearly 2,600 members. This speaks volumes for the extended and increasing influence of the Institute. If all these units imbued with a proper and unselfish interest in the cause of architecture are in the aggregate working with any enthusiasm at all—and this no one can doubt who knows what is going on in the profession—I think I cannot be wrong in prophesying a great advance in our art during the coming century.

It was comparatively easy to review in a measure the work of the past one hundred years. As to the future, there is a saying that it is unwise to prophesy—unless one

knows; but one may draw conclusions by analogy. Lord Macaulay said: "People have only retrograded in civilisation and prosperity from the influence of some violent and terrible calamities, such as those which ruined the Roman Empire or desolated Italy at the beginning of the sixteenth century. . . . The natural human tendency is towards improvement." This same principle is surely applicable to our modern architecture.

Trusting that no overwhelming calamity may occur to the detriment of our race and civilisation, and that, should reverses or bad times come, they will only tend to strengthen our moral, intellectual, and physical force, let us rely on the natural human tendency towards improvement, and cherish the hope that our future architecture may reach a perfection transcending all that has gone before. Surely this should be the case. We have knowledge of all the past; we have greater facilities for the acquirement of every branch of learning than any people ever had; science is at a higher level than in any former period: shall progress in the art of architecture alone be arrested? It is not possible. The vitality shown in our academies, schools of art, guilds of arts and crafts, and not least exemplified in the studies and works of the students in connection with the Royal Academy and the Royal Institute of British Architects, tends to prove the truth of this theory of progress.

Let us consider some few points of interest in connection with the architectural practice of the present time, as well as some subjects of importance that may influence our art during the twentieth century.

There can be no doubt that the most important question of the moment is the necessity for a better and more methodical system of education for our students in architecture than exists at present. The Institute can do little more than stimulate and assist such steps as may be taken in this direction. Its rôle is not that of a teaching society; its function is to foster and encourage the art of architecture, to guard the interests of the profession, and to examine and ascertain the qualifications of those wishing to be enrolled on the list of its members. England is lamentably deficient in adequate means of imparting the necessary grounding to the students who wish to turn their attention to this particular art.

The pupil, as a rule, picks up—as Mr. Arthur Cates has put it—his knowledge piecemeal, in a haphazard sort of way, in the office of a large practitioner, with but little attention from the one who really could teach him. This is almost unavoidable in the office of an architect in large practice. Then in order to pass the Institute examination the student crams with certain teachers. The cramming may have the result of passing him, but it leaves him still inadequately educated. Further, there is in all our schools too much concession to temporary or ephemeral fashions, notwithstanding many good examples of work done by our architects of this century in various defined sober and self-restrained styles. Men such as Burton, Wilkins, Barry, Scott, Cockerell, Soane, Pennethorne, Nash, Wyatt, Pugin, Elmes, Burges, knew the groundwork of their art thoroughly, and this knowledge was the cause of the purity, dignity, good proportions, and detail of their designs. There is much talk at times of Palladio, Michel Angelo, Brunelleschi, and other old masters; but I wonder how much the average architectural student really knows of any one of them?

More severe and systematic courses of tuition exist in France. Their devotion, however, is limited almost exclusively to Renaissance. Their work, often most correct, is somewhat wearisome. But their course of study is thorough. A close familiarity with the best of what has gone before in Classic, Gothic, and other styles should enable the architect who is gifted with some power and freedom of thought and expression to avoid the wearisomeness of the French modern architecture. And it may be remarked in passing that the faults in proportion and

detail, and the incongruities often found in our English work, might be avoided in like manner. The new Byzantine Cathedral of Marseilles shows the thoroughness of French methods of study. It is correct and imposing, but somewhat dull. Surely a little more freedom, a little more originality of thought, would have saved it from this charge of dulness without impairing its purity or dignity.

In France the centre of this thorough study of architecture, where each student gets properly grounded in first principles, is the *Ecole Nationale des Beaux-Arts*. And this is a Government establishment.

In Italy the central school is the Academy of St. Luke, also under Government.

In Germany there are a number of excellent training schools for architects, all under Government control.

In the universities, colleges, and technical institutes of America there are some half-dozen or more first-class training departments in architecture, which have now reached such efficiency that their students are ceasing to go to France for purposes of study. And the best American architects are often university graduates to begin with. All these countries have felt that the interests of the community and the State demand the efficient education of the student of architecture.

In England at present there are no Government schools of architecture worthy of the name, or any individual endowments that would render a successful organisation possible. It is true there have been certain schools of architecture attached to the schools of art, as at South Kensington; but in these the grounding in first principles has been on somewhat unsystematic and desultory lines, and the teaching of architecture is altogether subservient to the classes for painting and sculpture. The methods at the Royal Academy School appear to be similarly wanting in systematic grounding. A new school, under the Board of Education, forming part of the Royal College of Art, has been inaugurated at South Kensington, and a reorganisation of the schools of art generally is in progress; but this new school is, apparently, to be of limited scope, and designed mainly for the training of art teachers; and though students of architecture will be received, it will be chiefly to learn drawing and the artistic side of architecture. It will, therefore, be a hard task for the new teaching authorities to make it a complete and systematic school of architecture from the foundation to the finish. However, until it starts work, it is premature to say what it may become or to discuss its efficiency.

Our universities seem to ignore architecture—the only bodies who touch the subject at all being University College and King's College, London, and Victoria University in the North.

It had been hoped that the authorities, in the reconstruction of the London University, would have taken some steps for the representation of architecture; but, notwithstanding that their attention had been particularly drawn to the desirability of this, and that a sister art and sister sciences are duly represented on the Senate, architecture remains unrecognised, and can only now be admitted by Act of Parliament. Apparently this is because there are really no properly constituted or efficient schools of architecture in the country, or none worthy of university recognition. However, Mr. Bailey Saunders, the Secretary to the London University Commission, in his letter to the *Times*, informs us “that amongst certain Boards enumerated in the regulations a Board of Fine Art, including architecture, is to be appointed, and that there is nothing to prevent the future Senate recognising architecture as a branch of science.” Let us hope it may also be recognised as a Fine Art. If at any time the Senate of the London University does see its way to offer the opportunity of conducting examinations of a professional character jointly with this Institute, we shall not, I imagine, be slow to avail ourselves of it.

All this points to the immediate need of some efficient training school for architects, providing thorough grounding and systematic education.

Our junior society, the Architectural Association, has done much to further this object. If it extends its work in the direction suggested by the President a short time back, and becomes really a teaching body, a properly constituted, systematic and efficient school of architecture such as the universities will recognise, the thanks of the whole profession will be due to it, and an advance of unparalleled significance will have been made in our architectural education. But this is a matter of large and grave importance, and will require the deepest and most serious consideration if it is to be initiated at all; and to have any chance of success it must be no dilettante effort, but must be started on a proper basis, with the most competent professors in all the branches necessary for the complete educational equipment of the architect. An enterprise of this magnitude, undertaken in such a spirit, would be a fitting inauguration of the dawn of the twentieth century.

Should it become a reality, I cannot but think that the sympathy of the Institute with such a movement would prompt us to assist in every way commensurate with the means in our power. It might then be advisable, and even possible, to concentrate the energies of the Royal Institute of British Architects, the Architectural Association, and the Architectural Museum in one comprehensive scheme housed under one roof as the architectural centre of the United Kingdom, and indeed of Greater Britain.

But such a scheme would involve great expenditure, and architects, as a rule, do not become wealthy men. Still there are a few amongst our leaders to whose generosity I should suppose such a scheme would appeal. And surely there are also some public-spirited persons outside our profession who, appreciating the vital necessity for a better system of education amongst architects, and the value of good architecture in the history of a great empire, might, if properly approached, be inclined to assist munificently in the carrying-out of such an object.

The oft-repeated cry against the *formal* teaching of any art seems to have died of late, and we hear less of the triumphs of unaided genius. It is perhaps only in novels that the Phoenix of painting and sculpture takes his erratic flight, exhibiting at the Royal Academy with no previous tuition, and earning a princely income immediately after the appearance of his first picture. We must admit that in architecture, as in the sister arts, the "flash of genius" is necessary to give impulsion to the work of the architect, but every genius is the better for sound teaching. As William Allingham has said:

"Books, gowns, degrees will leave a fool a fool,
But wit is best when wit has been to school."

In connection with education we have in the collection of casts that forms the Architectural Museum a most potent instrument ready-made to our hands. This series was gathered together about thirty or forty years ago, when Gothic was most in vogue, and the examples are mainly in that style. The Museum building itself is in need of repair, the collection wants rearranging, and additions of good examples of Cinque-cento, Spanish, and other styles of art, in which sculpture and plaster decoration play a leading part. If this Museum, expanded in scope, were made part of the school suggested by the Architectural Association, and were organised in connection with the Institute, it would be worth considering whether to its copies of architectural sculpture and details an addition should be made of a technical collection. It might then show samples of building materials—without being a trade museum or an advertisement of building appliances and inventions, but a museum wherein the student or architect could learn the properties and uses of the raw

materials of his art. It is true we already have the Geological Museum ; but the specimens of building-stone, for example, shown therein give no information on the points in which the architect is interested, such as constituent parts, weathering capacities, crushing weights, specific gravities, supply sources, prices, the uses to which it has already been put. This project would be easy were the Institute in possession of more commodious premises. We had a faint hope of obtaining the use of Burlington House, lately vacated by the London University, but unfortunately it is to be taken up for Government offices.

A second very important question is that of the present status of the architect. Any person, however unfitted to practise the art of architecture, or even that of building with no pretence of architecture at all, can put a plate on his door and dub himself "architect." This is an absurdity, and as much a danger to the lives and pockets of the community as the quack practising in medicine. With a view to remedying this state of affairs it has been suggested that some form of registration by Act of Parliament of architects now carrying on business (and hereafter those who have passed an examination) should be adopted. But as this would not prevent quantity surveyors, engineers, land agents, house agents, builders, and others undertaking the duties of architects, and obviously for many years would introduce to the public a host of absolutely unqualified men, as specially licensed by Act of Parliament to perform duties not only involving the security of the life and property of the subject, but the reputation in future years of the cultivated and artistic sense of this great Empire, I need scarcely remind you that the Institute has hitherto strenuously opposed such a measure.

As an instance of an unauthorised and meaningless use of the word "registered" I saw a short time ago in a provincial town a name on a door-plate, with the words "Registered Architect" attached. On inquiring what this signified, I learned that he was a registered member of some architectural society—not the Royal Institute. No doubt the unthinking public might attach some value to this title, implying some superior qualifications for practice as an architect. It would also be likely to exercise a prejudicial effect on those who declined to attach to their names such a meaningless word. That the public should be safeguarded in some way in regard to the practice of architecture by unqualified persons is becoming daily more apparent.

The status of medical men in every branch of their profession is gauged by the qualifying examinations they have passed and the registerable diplomas granted them by the various legally qualified universities or medical corporations. Though the registration of these diplomas is not compulsory, any man having obtained a qualification in medicine or surgery is allowed to practise according to his qualifications, whereas an unregistered medical man cannot hold an appointment in any public or Government institution, his certificates are not valid, nor can he recover any charge in a court of law. This is for safeguarding in a measure the lives of the community from unqualified practitioners in medicine and surgery.

As to solicitors, their qualifications are fixed by the Solicitors Acts, and any person who attempts to practise as a solicitor without those qualifications is amenable to the criminal law. A qualified solicitor must (a) have duly served as clerk under a binding contract for a period fixed by law under a practising solicitor ; (b) have passed the proper examinations ; (c) have been duly admitted and enrolled ; (d) possess a proper annual certificate (on which a considerable stamp duty is charged) enabling him to practise for the current year. His fees are regulated by law, and can be taxed by duly appointed officials. This is to safeguard in a measure the interests and property of the community from the action of unqualified men who might otherwise practise as lawyers.

But at present there is no safeguard to the lives and pockets of the community from the

actions of unqualified persons practising as architects. A revival of the ancient guild system seems to be a strongly marked modern tendency, nor can there be any doubt of its protective value to all professions, since enrolment in a recognised society practically amounts to registration. Thus accountants are not, I believe, bound by Act of Parliament to register; indeed, I suppose anyone may practise as an accountant; but no one can use the title "Chartered Accountant" unless he belongs to the Institute of Chartered Accountants and has passed an examination.

The value of the title "Chartered Accountant" is due to the fact that the examination is very severe, and considerable knowledge of law is required. In order therefore to improve the status of members of an established corporate body like ours in the eyes of the public, the examination for membership should also be severe, and comprise not only construction and architecture, but legal and other subjects necessary to fit a man for his profession.

The Incorporated Law Society commenced its existence in a very similar way to the Royal Institute of British Architects. After a time it began to impose the passing of examinations as a condition of membership. Later, the registration of solicitors was made compulsory. Still later they acquired the entire control of examinations, the custody of the Roll of Solicitors, the registration of articles of clerkship, the power of admission and readmission of solicitors, the renewal of their certificates, and other powers.

To follow on somewhat similar lines should be our policy; and whatever steps towards the legalisation and control of the practice of architecture may in the future be considered desirable, this Institute should be prepared to initiate any movement which might be likely to best serve the public interest and place the profession of architecture in the high position to which it is entitled.

Whenever we can obtain for this Royal Institute such legal recognition, with extended powers for regulating the qualifications of persons desirous of becoming architects, the admission to membership would become practically admission to the architectural profession. It would be a guarantee of efficiency, through the fact of having passed examinations held either by the Royal Institute of British Architects or by universities or other qualified examining bodies in conjunction with the Institute. The professional status of an architect would then attain a position commensurate with the dignity of the vocation.

It may be as well to remind you that Her Majesty's Government, the Government of India, and corporate bodies both in London and the provinces, have recognised the standing and influence of the Institute on many occasions, and have frequently sought our advice and assistance for the public benefit. Surely, then, there is good reason to hope that in the near future any well-considered scheme emanating from us for giving a legal status to any qualified practising architect would receive the favourable consideration of the Government. Many details would have to be carefully considered before submitting to Parliament any measure for making this Institute the controlling body of the architectural profession, and I think that this question should receive the serious attention of the Council early in the century.

There is a third matter, in relation to architects and the practice of architecture, to which I must refer, and that is public competition. This was a burning question when I was a pupil, is a burning question now, and will, I fear, continue to vex the souls of future architects. I cannot help expressing the opinion, based on years of experience, that whether looked at from the point of view of the client who desires to obtain a good building, or of the architect who wishes to do himself justice, or of the general public interested in fine architecture—architectural competitions are a failure. In most cases better designs, or designs more suited

to special requirements, would result if architect and client were in constant consultation from start to finish, than if the former was working from printed instructions only.

For years past correspondence in the professional journals has shown the keen sense of dissatisfaction caused by competitions. A strong evidence of this is the recent raising of the question whether an assessor should adjudge higher value to the plan or to the elevation of competitive designs. It frequently happens that the competing architect, unable to consult his client, elects either to depart from the prescribed conditions of accommodation for the sake of his elevation, or to fulfil the plan conditions to the detriment of his design; in each case placing the judge in a most difficult position, and possibly causing discontent to both competitors and the promoters of the competition.

In making these remarks I have no wish to decry the work of many of those eminent architects who have earned their reputations by competition. In my own case the commission for the largest building I am responsible for—the Allahabad University for the Government of India—was obtained in competition. But I am bound to say it was practically re-designed, in consultation with the authorities concerned, after the competition had been decided in my favour.

I have lately been arbitrator in a case where one point in dispute was that the architect, after gaining a competition, had practically to replan the whole building to suit requirements of authorities who ought to have been consulted at the beginning, for which replanning he claimed payment; and I know of a number of similar instances. It would be easy to compile a long list of both public and private cases in which the results from this cause have been disappointing and in some instances disastrous. The selection of a capable architect, and placing him in direct *rapport* with his employers from the beginning, would save an enormous waste of time, money, and energy. And it is significant that in recent Government buildings the principle of competition has been virtually abandoned.

It is said, however, that it gives the young man a chance. That may be so; but in architecture, as in every other profession, the man of energy and ability will come to the front, competition or no competition. The work a man has done is as good a criterion of his powers as any fresh design he may produce in competition, and it becomes simply a cruel waste of time and money to force him continually to compete.

In a merely economic sense the waste of money and energy in this strife is absurd and monstrous. In six competitions I could name, the total sum to be expended was £400,000, and there was an aggregate of 320 competitors. Say that each one spent at least £60—which in most instances is less than the actual sum—on the preparation of the plans, the total cost to the architectural profession in competing for these six works would have been £19,000, and that for a net profit to be divided amongst the six successful architects of only £12,000, assuming that about 2 per cent. on the total amount involved would be the cost to the architects of carrying out the works.

Is it not a monstrous injustice that we should be compelled to waste so much money, energy, and brain power, in order to obtain an honest livelihood? No tradesmen even would submit to such injustice. But architects themselves are greatly to blame in this matter. We have not sufficient *esprit de corps*. Too many of us are ready to enter into competition where the terms are manifestly unfair on the bare chance of obtaining the work. Private competitions are on a different footing, where each competitor is paid a fair sum for his design.

This Institute has done much to help in getting competitions started and carried out on fair or approximately fair lines, but it rests with individual members to show some self-respect and dignity in declining to compete unless the terms are fair, and the competitor placed first by the assessor be employed to carry out the work.

However much the Institute has done, I am confident the Council would be only too pleased to do more. There have been some suggestions made in a recent discussion, in one of the architectural papers, which are scarcely practicable. Our Competitions Committee, or Council, can only take action when a competition is announced, or an assessor is asked for; and then only by suggestion, for we cannot dictate. More often than not we are asked to appoint an assessor after the conditions have been decided upon and issued by the promoters, or the designs have been actually submitted.

I think matters might be helped somewhat if allied societies also appointed small standing competition committees, whose business it would be, on hearing of contemplated competitions, immediately to open communication with the promoters, and point out to them the views of the Institute, and our suggestions as to conditions. This course might prevent in many instances the conditions being issued before an assessor was appointed, and so save much trouble.

A properly appointed assessor affords a better guarantee for careful examination of designs than the haphazard system which used to prevail; but I think architects should refuse to compete unless the conditions are just, and have been drawn up by the assessor. With regard to suggestions made as to the method of appointing an assessor, I can only express my opinion that a body of men, however able the individuals composing it may be, is not the best instrument for selecting a person for any particular appointment. A responsible person who has the opportunity of consultation with reliable colleagues has a much better chance of making a fitting selection. But when all is said and done, an assessor cannot always be relied upon as infallible, any more than in legal matters a judge's verdict may not sometimes require reversing.

There is one other matter I may mention in connection with our professional practice. After negotiations lasting I am afraid to say how many years, at last a definite form of Building Contract has been agreed upon between our Council and the Institute of Builders, and now only needs the approval of our general body at a business meeting. This will shortly be laid before you, and, gentlemen, I think this is a most important point, and one that will save endless difficulties between architects and their clients and contractors in the future.

So much for matters in connection with the professional practice side of architecture. Now let me glance at one or two subjects that may become important factors in the architecture of the next century.

First of all comes the question of the art of architecture as distinguished from mere building. I have already mentioned the debate as to whether in a competition the assessor should regard more the plan, or the artistic qualities of the elevation and design. It has been suggested by an eminent Royal Academician that theory should be subservient to practice, and that the elevation is the growth from the plan—the plan first, the elevation after—a principle, he considers, too often neglected. I cannot think that any hard and fast principle can be laid down.

There is a sense in which it is true that the elevation should grow from the plan, but in practice I think an accomplished architect considers both together. Our art is largely a matter of co-ordination, compromise, and compensation; one gives up a trifling advantage of plan to obtain a better artistic effect, or one foregoes a point of effect in design for the advantage of the plan.

Architecture is neither planning nor making fine elevation, but a combination of the two—and of much more besides. For there is a subtle and not easily defined quality to be found

in all good architecture, one not always included in convenience of plan or propriety of design, which the world has agreed to call "*Art*." Tolstoy says, "Art is a human activity transmitting feelings," and the stronger the "infection" the better the art. The test of its greatness is not only whether it infects with the artist's feelings those who may be prepossessed in its favour by special education or fashion, but whether it is capable of influencing the unbiassed judgment of the world at large in different countries and times. The late Lord Leighton also evidently felt this to be the meaning of the word "art," for in one of his lectures he said: "Art is based on the desire to express and the power to kindle in others emotion active in the artist, latent in those to whom he addresses himself." The quality of this transmitted feeling is of infinite importance. If the work is virile and noble, it elevates the soul; if it is puerile or vicious, it debases it. Certain triumphs of our art—the Parthenon, the Pantheon, the Taj Mahal, the cathedrals of Chartres, Rouen, and others, and some of the best examples of the Cinque-cento period—well-known works, still freshly transmit the feelings of their creators, and in Tolstoy's phrase unmistakably "infect" the beholder with their sentiments.

It is our misfortune just now to have urged upon us comparatively trivial and local views of this great subject. We have had this century a Classic revival, which would take a temple portico as a model and plant it on to a domestic palace as fitting rural architecture. However charming this may appear in a distant view of a large landscape, as at Prior Park at Bath, nothing could be more incongruous with domestic English life or with the severity of the weather in this uncertain climate. This class of work did not "infect" more than a portion of the community predisposed in its favour.

We have had enthusiasm for mediæval art reproducing for modern requirements and worship fourteenth-century churches, complete in all their parts—or introducing ecclesiastical details and construction into modern domestic work, regardless of the difference in times, politics, social life or thoughts, and of the eternal fitness of things. This class of work did not "infect" more than a portion of the community who were educated to appreciate the influence. We have had those who said that, in the absence of sculpture, architecture is non-existent, being then simply building. We have had others who affirmed that as "good wine needs no bush," so good architecture needs no sculpture. The revulsion of feeling caused by the extremes of the Gothicists is now producing a school who think the finest architecture consists of plain Georgian windows and a good cornice—a nice simple style in which the minimum of detail labour may answer for the maximum of building. This school cannot look at Gothic without exasperation, as years ago the Gothic admirers could not regard Classic; but it has been noted before this that differences in points of taste often produce greater exasperation than differences in points of science.

With few exceptional instances, every one of these schools fails in greatness as the best of old work did not fail—according to either of the above definitions of art. What is it that is wanting? Was the perceptive faculty missing in the designers—or the large and cultivated mind, the breadth of view and artistic inspiration which lead the genuine artist to interpret in his work the wants and feelings of all times and peoples, or did they aim to satisfy only the ephemeral fashion of the moment? If so, this means that more thoughtful education, culture, and travel are required for expansion.

It is a matter for serious regret that the East, and especially India, the cradle land of much that we most prize in Europe, is so entirely neglected by our students and professors. Indian architecture has a whole world of instructive examples of grandeur of proportion, picturesque grouping, perfect planning, and beautiful detail, besides an indescribable, nameless poetry nowhere else to be found.

I do not suggest that we should copy Oriental architecture any more than that we should

copy Greek or Egyptian work, but that it should be seen and studied as an educational process, as well as for its own sake, and the more especially as Great Britain is now not only a European but an Asiatic power.

In these days men are apt to restrict and stint their studies and tastes, as trees are stunted by Japanese gardeners, until their own peculiar little school or period of architecture stands to them for the whole circle of art, a course that is as narrowing and prejudicial to progress in art as it would be in the field of science.

I only say that notwithstanding the wealth of art to be found in Italy, Greece, and elsewhere in Europe there is, nevertheless, much to be learned further east. Surely it is the want of real educational grounding in properly constituted schools, and of larger travel and wider study, that causes us to find so much that is disappointing in our modern work.

Her Majesty's Government of India has done many things in the interests of Indian art and archæology of less promise and profit than would be the establishment of travelling studentships in India; while to the patriotic and wealthy in this country the idea may well be commended, for there can be no doubt there is as much to be learned in the East as in the West.

As to the next century, among its many problems it seems likely that some revision of our present methods of church planning may result from the needs of great congregations in our cities and large towns. It is not Dissent alone that now commands large crowds and requires expanded tabernacles. The Mother Church also needs grand areas for worship where all can see and hear.

Perhaps in the near future it may be thought advisable to consider the plans of such buildings as the ancient Basilicas, the early Church of Santa Sophia at Constantinople, the Pantheon at Rome, the grand Oriental mosques, and the Church of Santa Maria del Fiore at Florence, with a view to avoid the blocking of the central portions of our large churches or cathedrals, after the mediæval manner so detrimental to congregational worship. We may then possibly find a way to bring the altars forward instead of placing them some hundreds of feet away from the nearest part of the congregation. Something may then be arrived at larger, broader, simpler, grander, and more suited to an enormous, earnest, devotional congregation intent on taking part in the service of worship, than in an arrangement whereby they are crowded out of sight by the narrowness of the nave and the massiveness of the piers. I can conceive that such a building might be a glory to the century, not necessarily of cold, classic details, or of Oriental feeling, or of severe Gothic, but nervous with the life and aspirations of modern times and beautiful in proportion and detail and in sculptured lessons.

Also as to our streets, we have the problems of open spaces, public buildings, institutions, hospitals, asylums, schools, houses for the poor, and blocks of self-contained dwellings for the middle classes. There is much to be done, notwithstanding the strides that have been made in the arrangements of all these during the last fifty years. London is being fast rebuilt—certainly in the central part. I would ask on what principle is this rebuilding being done? Is more forethought being expended than in former centuries? Is the laying-out of new streets on large enough lines to free the constriction of the ever increasing traffic, to admit of abundance of light and air to the overcrowded areas, and to obtain Heaven's blessing of green leaves and trees in our main thoroughfares? Is any shelter from rain and snow thought of for pedestrians? Are our open spaces, bridges, and approaches to be properly designed and laid out by our most capable men, or left to the chance ideas of the subordinates of our county councils and other authorities? The time must come in the next century when

the rebuilding of London for its enormously increasing population—increasing, I believe, at the rate of some 50,000 annually—must be proceeded with in real earnest, not merely in the childish way of pulling down at intervals a few squalid neighbourhoods and running new streets on chance lines through the clearing, as being the cheapest method of making a small improvement, and on designs obtained by ill-considered methods, with no definite intention of carrying them out. Is new London to be allowed to grow up with as little apparent design as a vegetable—controlled by a thousand influences, some hidden, some vainly directed? Or is it to be on an imperial, necessary, convenient, healthful, and tasteful plan, properly thought out and laid down beforehand by competent hands, and rebuilt under a wise control? If the latter, it is time energetic steps were taken to arrange for it, and the best architects and engineers asked to collaborate in the matter. Our main thoroughfares, narrow and choked with traffic, dangerous to life and limb, wanting in light and air, are gradually being reconstructed on almost the old lines, subject only to the improvements in construction, and to regulations as to heights insisted on by the London Building Act. They are unhealthy by overcrowding; the wood paving alone, through insufficient cleansing of the dust impregnated with impurities, is causing new diseases of eyes and throat.

One cannot but feel that a step in advance has been made by the fact of the London County Council becoming alive to the importance of obtaining thought-out schemes and designs for future improvements, though only in part before rebuilding is commenced.

The Strand to Holborn scheme is clearly a movement in the right direction, recognising as it does a general principle, however ill advised the County Council may have been in the particular method of applying it; for we cannot but regard as unfair their conditions to the architects, and the nature of an arrangement unsatisfactory by which, even when designs may be settled on, there is no guarantee or certainty that they will be carried out.

But if in the rebuilding of London our authorities are wise, at an early date in the new century plans should be prepared, showing future lines of building and increased width of thoroughfares; and all future building operations, private or public, should be controlled within these lines, no matter at what cost. The streets should be wide, our main thoroughfares sufficient to allow of trees, like the Unter den Linden or the Paris Boulevards, and arranged to harmonise with beautiful buildings. The roads should have efficient means of copious flushing and cleansing with water.

It is worth considering whether shops should have arcades over the footpaths, for the protection of pedestrians from rain, snow, and sun. There are objections on the ground of police supervision and light, but they are by no means insuperable, while undoubtedly the arcade gives the architect his only chance of making a shop front constructively reasonable. At present huge façades of stone or terra-cotta and brick appear to be slung in air over a yawning abyss of plate-glass. Of course everyone knows they rest on iron girders and columns, but a well designed arcade would give a sense of safety and constructive propriety and still might admit sufficient light to the shops.

There should be subways everywhere, as exist now under a great part of the streets of Paris. These would contain the sewers and drains, water and gas pipes, wires for electric lighting, and telegraphs and telephones, hydraulic power pipes, and possibly mains for a public supply of steam for heating and ventilating, cooking and driving machinery—thus avoiding the present and ever recurring nuisance of the breaking-up of the roads.

Our public buildings, institutions, middle-class blocks of self-contained houses, and dwellings for the poor should have their surroundings clearer and their sites arranged for free admission of light and air in abundance, and the ground area not overcrowded by inmates. The spaciousness would also permit the architecture to be seen, and would be an incentive to

higher class design, which, as well as the laying-out of the streets, should be under official control.

The problem of the housing of the poor should be so solved as to raise the working classes to a higher physical and moral level, and assist in redeeming them not only from the worst evils of poverty and misery but from evil surroundings and wickedness.

Sir Thomas More said, "All men, even the vicious themselves, know that wickedness leads to misery, but many even amongst good men have yet to learn that misery is almost as often the cause of wickedness." It will become in the next century a part of the highest duties of architects to see to this. They must render the dwellings of the poor not only comfortable and sanitary but beautiful, so as to educate and raise their tastes.

The movement to this end, based on the awakening conscience of the upper and middle classes, as well as on the urgent practical necessities of growing London, is at present only in its infancy. With the happily constant growth of human sympathy it must become one of the most poignantly interesting as well as one of the most important problems of the age, one which the most accomplished architects need not feel to be beneath their notice, and which indeed they should be called upon to assist in solving. We all know of examples of even almshouses, picturesque, beautiful, and dignified, designed by some of the greatest men.

There have been powerful rulers in the world's history who have dared not only to rebuild cities, but to decree their removal when necessity demanded. Amber, the ancient capital of Rajpootana, was deserted, and the town of Jeypore erected to take its place, by the order of its ruler, Jey Singh. Toghluabad, near Delhi, is a similar example. Turin has been rebuilt during this century, though on the uninteresting mechanical gridiron system which the Americans also have adopted in laying out their new towns.

The rebuilding of a city is a rare opportunity, and should be well and artistically done. John Wood, of Bath, and his son had this rare chance, and they took advantage of it in a splendid manner. Sir Christopher Wren prepared sketch plans for rebuilding London after the Great Fire, but had no opportunity of carrying out his ideas. Now London is unique in the fact that, notwithstanding its wonderful and continuous growth through many centuries, its centre, the City, has always been fixed. In any future reconstruction this centre must be the starting-point; the main arteries for traffic must be arranged to radiate from this centre to the surrounding suburbs.

But this is not all. We have heard at our Congress last session of the necessity for collaboration between the architect and sculptor and painter; that is to say, closer union of all the arts is needed in the master art of architecture.

Painting *may* have more scope in the architecture of the future, in the way of internal decoration, than during the past century, and there are many signs of this coming to pass.

But sculpture *must* have much to do with the design of the external architecture and rearrangement of new London if it is to be worthy of this great empire. The question of the right manner of its introduction in detail I do not propose to open. I am not addressing pupils. I am simply stating my conviction that we may look forward to a far more intimate union between sculptured work and constructive forms than we see at present. Yet most of us have observed recently in the productions of some of our younger sculptors strong appreciation of the decorative capabilities of their art, and one could mention men to whom might be confided the carrying out of even a constructive piece of decoration with the certainty that it would be wrought in harmony with its architectural environments. This Harmony is not always effected. Nothing can be more wasteful and absurd than to finish sculpture placed at a great height above the eye to the extent that the figures on the top

of Milan Cathedral are finished. Or again, I cannot think it happy to place sprawling meaningless figures on the sides of window pediments, like some I noticed the other day—out of scale, coarse, and so large in comparison with the pediments that they looked scarcely capable of sustaining their weight; or, on the other hand, to place in similar positions rows of nude children, repeated *ad nauseam*, is a costly, meaningless, and futile decoration. Nor can I think yards of repeated terra-cotta ornamentation excellent. But much depends on the manner of the introduction of such embellishments. Sculpture in connection with architecture should not be the first object to attract the eye, but should take its place as part of the general scheme, adding to and not upsetting the general harmony, helping the architecture to tell its tale.

Sculpture is the natural complement of architecture, often indeed as integral a part of it as the blossom is of the tree, crowning it with beauty, and manifesting in clear and unmistakable terms its object and purpose. At first carver and mason were one; later on, as skill increased and finer materials came into use, the sculptor became, as art critics say, "emancipated from bondage," and had no further need for the ladder by which he had climbed. So now it is laid down on high authority that "the insulated statue is the highest and truest production of the sculptor's art." It is difficult to upset dogmas.

But the doctrine is more literary and popular than sound. Not that I would grudge sculpture any place that may be claimed for such work as independent art. Yet as to which are the triumphs of art in sculpture I believe the sculptors would be unanimous in their verdict for those by Pheidias on the Parthenon. We now see these technically perfect works as "insulated" statues or groups in our galleries. But they were much more than marvels of the skill of an independent sculptor. They were part of an architectural composition to which they gave a nobly decorative effect, while they were fraught with a significance which few of us can now adequately appreciate, expressing the attributes of the Virgin protectress of the city, whose image in ivory and gold was enshrined within the temple.

The sculptors of the middle ages, no mean artists, seldom attempted the "insulated" statue. At a later date Donatello produced statues independent in themselves, and not "mere adjuncts" of architecture. Now at Florence one may see the original of this clever artist's St. George as an "insulated" statue in the Bargello, but there is a copy in a niche of the church wall from which the original was removed (for better preservation), and I think I prefer the work as a "mere adjunct." Also I would prefer the same artist's beautiful singing boys relief in the place for which it was originally designed, though it may now be seen in most galleries as an independent work.

The critics who uphold this doctrine of insulation, as we may call it, doubtless think of the matchless single figures of Greek workmanship, of which copies and a few originals are seen usually in a fragmentary state. But they probably forget that the majority of these works, including even the magnificent Venus of Milo, now standing in solitary grandeur in the Louvre, were originally part of an architectural composition. I cannot help feeling that sculpture divorced from architecture loses greatly in value, character, style, and teaching. Not only is the charm of work wrought in harmony with architectural surroundings lost, and any teaching of a definite age missing, but its composition suffers from the absence of the confining lines which enhance its value.

With freedom and detachment more elaborate detail is possible. The work ceases to be sculptural, while the artist often lapses into that kind of naturalistic imitation which, carried to the bitter end, is seen at Madame Tussaud's.

There is a great gulf between the portrait statues and busts of Rome, conceived and executed in a style which was then a vital force, set in congenial architectural surroundings,

and our forlorn and sparsely sprinkled public effigies. If an estimate were framed of the cost of these latter I feel persuaded that half the sum spent on irregularly spotting our public places with insulated statues (which are never even washed) would have sufficed to cover the greater part of our public buildings, now blank and inexpressive, with fitting sculptured adornments, significant in meaning and beautiful in effect.

A building is of itself an historical monument, upon which, more fitly than by any insulated work, the varied aims, achievements, interests, and story of the time can be permanently inscribed. I do not mean to say we should have no independent statues at all, but rather that when we do have them, even in our public places and gardens, and on our bridges, they should form part of a properly considered architectonic scheme.

But there must be in our future progress not only collaboration with the arts in sculpture and painting, but also with science in engineering.

The opportunities afforded of constructing vast enclosures, bridges, roofs, &c., by means of iron and steel were impossible in former times with only the older materials. In such works the science of the engineer must necessarily be predominant; but there is no reason, if engineers and architects would work amicably together, why this class of building should not be grand and beautiful.

If architecture neglects scientific construction in other materials than brick and stone, it is not properly fulfilling its mission. On the other hand iron and steel could certainly be used without the meagreness or aridity of effect to which we are unhappily so much accustomed. It certainly is not impossible to make a beautiful iron bridge or roof. I occasionally go to a small railway station, not very far from London, where the ironwork always "infects" me with a pleasurable feeling. The forms and details are beautiful without too great extravagance or waste of material by unnecessary weight. But instances of this sort are rare; and no doubt, as a material, iron or steel has many drawbacks in an æsthetic sense.

But anyhow, this is a subject to which our rising generation of architects should turn their earnest attention, if progress is to be made in many of the great structures of the time; and I reiterate they should work in collaboration with engineers as well as sculptors and painters.

I have now, Gentlemen of the Institute, ventured to direct your attention to a few of the subjects that appear to me to call for our consideration, and in some cases for our united action, if there is to be material progress in our art during the next century.

The growth of our Institute and similar bodies, and the *status* of our profession; the necessity for the establishment of a broader, more systematic, and comprehensive scheme of education in architecture; the unsatisfactory nature of the competitive system; the expansion and concentration of the energies of this Institute in connection with the Architectural Association and the Architectural Museum; the cultivation of a more effective and intimate sympathy between the architect, the sculptor, and the engineer; and some of the problems and opportunities presented in the rebuilding of London, have been glanced at, with, I feel, somewhat diffuse references to other cognate subjects.

But one cannot expect that a large body will in all these matters see eye to eye with one who, though occupying this chair, is but an individual. I have, however, at least expressed some of my most earnest personal convictions, and as such I commend them to your consideration.

The interests of the profession are not altogether in the hands of the Royal Institute of British Architects, for, unfortunately, there are architects who are not members.

But if influence is to be brought to bear on the many important problems in connection with our art in the near future, arising out of the development of the country and this great

city, the heart of the British Empire, it must be by unselfish co-operation. If our Institute is to be a power in influencing public opinion, and the education, efficiency, and honourable conduct of the profession, a right feeling of *esprit de corps* should animate all our architects in an endeavour to increase its authority as their representative. With this object in view I conclude by appealing to those who, having the necessary qualifications, have not yet joined us to do so, that all our forces may unite in the work we are endeavouring to carry out in the interests of the public, the profession at large, and the noble art of architecture.

VOTE OF THANKS TO THE PRESIDENT.

MR. ALFRED WATERHOUSE, R.A., LL.D.,
Past President, Royal Gold Medallist, said :

I have been asked to propose a vote of thanks to our President for the Address we have just listened to. I comply with great pleasure. In our President we find we have a strong individuality—one who knows how to impart dignity to his position as head of this Institute. He showed this while presiding over the late Architectural Congress. He shows it again in this evening's Address.

Mr. Emerson's remarks on the progress of architecture and on the development of the Institute are most interesting, but must not detain us. I think we must all heartily appreciate what he says on architectural education, as also on the "Registered Architect." We do not seem ripe for such a personage as the latter at present. Though the future may have him in store for us, there will always, I expect, be considerable difficulty in putting the official stamp on a man's excellence as an artist, however comparatively easy it may be to gauge his qualifications as a man of business and of science.

Nor can we withhold our cordial assent to what the President has to say on the subject of competitions. They afford fine opportunities for the energetic young man; but at what a cost! The illustration our President gives us seems to work out almost more disastrously than I understand him to imply. For if 320 competitors spend £60 apiece in preparing their designs for buildings which are to cost in the aggregate £400,000 there would be nothing left of the 5 per cent. to pay the profession for carrying out these six important works.

We know that architects are actuated not by the love of gain but by their enthusiasm for their art. Yet even architects must live, and it is to be regretted that their enthusiasm should so often be taken advantage of. Probably a report from the Competitions Committee giving particulars of the competitions of the year, and in what they have resulted, would do much to open the eyes of the profession to their often extremely unsatisfactory character.

Our President calls attention to a recent controversy as to whether the plan of a building or its elevation be the more important—makes the

more for good architecture. We shall do well to recall his words: "Our art is largely a matter of co-ordination, compromise, and compensation. Architecture is neither planning nor making fine elevation: but a combination of the two, and of much more besides."

When speaking of the rebuilding of London the Address recommends the consideration of projects for amending lines of thoroughfare well in advance of their realisation, and so that they should all form part of a well-conceived general scheme. This is a matter of enormous importance, and cannot, I should suppose, have too much thought and deliberation bestowed upon it. Most of you will remember Arthur Cawston's contribution to this subject. He is unhappily no longer in our midst; but his daring proposals should not be altogether lost sight of. His method was the one advocated by the President—the taking one comprehensive view of this gigantic subject, and making every improvement, however small, work up to and form part of a desired ideal.

We join with our President in feeling that, if our art is to flourish as we should wish it to do, it must be by unselfish co-operation; and that if our Institute is to be the power for good we would wish it to be, it must be by a thorough *esprit de corps* animating all its members.

We have all been most happy in listening to so thoroughly sound and thoughtful an Address, and I beg to propose that our most hearty thanks be given for it to our President.

MR. G. F. BODLEY, A.R.A. [F.], *Royal Gold Medallist*, said: Quite unexpectedly I have been asked to second this motion, which I do with very strong feelings, because the Address has been exhaustive and most interesting. I will but detain you a very few minutes, but the one idea I should like to bring before you is this—viz., that I hope in all our looking forwards to what I trust may be the great future of architecture, and in criticising and thinking of our practice at the present, we should cast our eyes back and meditate on those great days of art, the Greek and the Roman and our Gothic, and think of that marvellous thing which to my mind is true, that in the great days of art there was not anything made that was not beautiful. If you dig up in your

garden any common utensil, any vessel of a shape you have never seen before, you may be certain that you will find it beautiful—you will find it instinct with expression, the expression of life. And it is that which makes our art great. I hope that in all our thinking of present art, and of the future, we shall constantly hark back to those great days of art which were so impressive.

I hope I am not betraying any secrets of our Council if I say that to-day we were taking steps—it came before us before although it was referred to a future meeting—to report upon a rumour, and more than a rumour I am afraid, of an alteration to the steps of St. Martin's Church at Charing Cross. It may seem a detail to many, but I think it is an important matter. As one has passed those steps one has often felt, though I have not expressed it myself before, as if one was in Rome: the steps were all right—perfectly right, and with that church above, which has, of course, a character of its own, the steps were so beautiful; and it is proposed now to lump them up equally step by step and to leave out the landing in the centre. Now to my mind the great beauty of those steps depends on that landing in the midst. More than twenty years ago William Butterfield, who has so recently left us, called upon me and asked me to represent to the Board of Works the strong objections that prevailed against the alteration of these very steps. I did so, and expressed

my own feelings on the matter as well, and I believe it was partly owing to that action that the proposed alteration was stopped. I hope it will never take place.

Mr. E. R. ROBSON [F.] asked leave to express the hope that the Royal Institute of British Architects would take some very strong line against the alteration of the steps of St. Martin's referred to by Mr. Bodley. Twenty years ago, when he was in the office of the engineer of the Metropolitan Board of Works, and they were carrying out the crossing at Charing Cross, there was a proposal to interfere with the steps, and he protested strongly, and said they might as well pull the portico down. He hoped the Institute would take up a strong position.

Mr. F. C. PENROSE, F.R.S., LL.D. (*Past President, Royal Gold Medallist*), observed that it would be a most fatal thing to alter those steps. He had strongly deprecated the proposal when it was mooted twenty years ago, and had set forth the objections to the alteration in a letter to *The Times*. Happily it was stopped for the time.

THE PRESIDENT, in acknowledging the vote of thanks, said that the question of the alteration of the steps of St. Martin's had come before the Council at their meeting that day, and would be further considered by them next Monday, when they would probably be in a position to represent their views to the County Council on the matter.

THE HIGHER EDUCATION OF ARCHITECTS.

By ARTHUR CATES [F.].

I. THE SCHOOL OF ARCHITECTURE, COLUMBIA UNIVERSITY, NEW YORK CITY.

IN his letter of the 21st September 1900, printed on pp. 502, 503 of the JOURNAL, Vol. VII., Mr. T. Bailey Saunders, who was Secretary to the Statutory Commission on the University of London, writes: "When an efficient school for the study of architecture arises in London it is hardly likely to be ignored by a University anxious to promote the interest of all branches of science and learning."

The statement implied in this sentence, that no efficient school for the study of architecture exists in London, cannot be denied or questioned; it therefore becomes incumbent on those who desire to see University recognition obtained for the education of architects, in the profession and in the art, to ascertain and to establish what such course of education should be, and then to endeavour so to influence the Board of Studies of the University, and the authorities of colleges recognised as schools of the University, that courses of instruction may be arranged providing

the systematic education which is so urgently needed.

In this Journal, Vol. VII., pp. 394-7, an article on "Architectural Education in the United States" summarised in general terms the system adopted in the leading universities and institutes of that country, to promote the study of architecture. Of these, Columbia University, Cornell University, the Massachusetts Institute of Technology, and Harvard University are each in their special forms particularly deserving of consideration here. In France the Ecole Spéciale d'Architecture in Paris, conducted by M. Émile Trélat, may afford many valuable suggestions for a carefully arranged course of study; while in Germany the architectural department of the great Technical University at Charlottenburg, Berlin, which has absorbed the Bau-Akademie of Schinkel and Stüler, and is particularly mentioned in Mr. Bailey Saunders's letter, cannot be overlooked.

Probably the most comprehensive and carefully

organised system of study as yet arrived at, is the course of instruction of the School of Architecture in Columbia University, arranged by Professor William R. Ware [*Hon. Corr. M.*] as the result of many years' experience and great devotion to promoting the interests of architecture. The particulars hereafter given have been gathered from the publications issued by the University, and have been condensed and arranged so as to be as useful as possible for the object in view, and completely inform the profession, the authorities of educational establishments, and the public, of the perfect organisation of education there provided.

The concluding paragraph of the article in the JOURNAL referred to above, expressing the American view of the high importance of a liberal course of study as introductory to a more scientific or professional career, is of great importance, and should find an echo here in the minds of some few at least who may have the opportunity of impressing similar views on those intending to enter the profession, who, by position, means, or attainments, may be fitting subjects for such higher education.

The School of Architecture is a department of the University under the direction of the Faculty of Applied Science, but it will be seen that this apparent limitation does not in any way exclude or limit the study of architectural art, which takes a very prominent position in the curriculum.

The staff of the School of Architecture comprises: the Professor of Architecture, two adjunct Professors of Architecture, a Curator and Lecturer in Architecture, an Instructor in Architectural Engineering, an Instructor in Architectural Drawing, a Tutor in Architectural Construction, a Lecturer in Architectural Design, and an Assistant in Architectural Design: in all nine officers of the Architectural Department.

Instruction in the School of Architecture is also given by officers of other departments—viz. the Professors of Chemistry, of Physics, of Mining, of Analytical Chemistry and Assaying, of Mineralogy, of Geology, Adjunct of Mining, of Electrical Engineering, of Civil Engineering, of Mechanics, the Instructors in Civil Engineering, and in Chemical Philosophy and Chemical Physics, the Tutor in Civil Engineering, and the Assistant in Mineralogy: in all fourteen professors, and others of other departments, bringing up the total number of professors and instructors to twenty-three.

The principles of the Method of Instruction may be stated generally as follows:—

1. *History*.—The first year's course upon Egyptian, Assyrian, Persian, Greek, and Roman Architecture is a series of illustrated lectures.

The Architecture of the Middle Ages and that of the Renaissance and its more modern derivatives are then taken up in alternate years. During the first half of the year the ground is covered by a course of lectures; and it is reviewed during the second half of the year, the class pre-

paring a series of reports with illustrative drawings, followed by exercises in historical design. Under the name of Archæology, second-year men read an illustrative text-book in French; the third-year men in German.

The instruction in ornament extends through the first three years, accompanying and illustrating the studies in Ancient, Mediæval, and Modern Architecture. It comprises the study of the decorative details of the different architectural styles, especially the decorative arts employed in buildings, the materials and processes employed in these arts, and the theory of æsthetics in form and colour.

2. *Drawing and Design*.—The instruction in drawing and design includes exercises in the ordinary processes of draughtsmanship, the use of pencil and pen, brushes and colour, and sketching. The examples of the commonplaces of architectural form are accompanied by lectures upon the elements of architecture, in which the forms and proportions of the Orders and of details are set forth, and the best methods of drawing them explained. These are supplemented by courses on projections, shades and shadows, perspective, descriptive geometry, and stereotomy. Problems in design from given data, of gradually increasing difficulty, are set in the first, second, and third years.

A certain amount of drawing, or its equivalent, is required of each student during the summer vacation under the name of Memoir and Summer Work.

3. *Architectural Engineering*.—During the first three years the scientific study of construction is taken up and carried as far as is necessary for an intelligent understanding of the engineering problems that occur in ordinary structures; analytical geometry, the calculus, mechanics, and engineering receive consecutive treatment. The principles of statics and of the strength and resistance of materials in their application to buildings are taught both graphically and analytically, and are illustrated by practical examples.

4. *Specifications*.—This comprises working drawings, architectural practice, and the materials and processes employed in building operations, carpentry, masonry, and iron work being taken up in successive years. A model specification is prepared, read, and explained to the class, a portion at a time, and illustrated by diagrams and working drawings. At the end of the year the students make a design embodying the substance of their studies.

Building Materials, &c.—There is a parallel course of lectures, treating of the origin, history, geology, chemistry, botany, mode of manufacture, and practical uses of the various materials and apparatus used in buildings; also on ventilation and heating, the drainage of buildings, the disposal of household refuse, and other branches of sanitary engineering.

5. *Reading and Writing*.—All the classes give a certain amount of time to reporting the substance of books, or of lectures, or the results of independent investigations, thus affording practice in both reading and writing.

6. *The Fourth Year*.—The professional and scientific studies are virtually completed in the first three years; the fourth-year work partakes of the nature of post-graduate study: the year is spent, at the option of the students, in the study either of history and design, or of construction and practice.

7. *University Courses*.—The two courses in History and Design, and in Engineering and Practice, are identical with the fourth-year's courses, and offer to graduates of this school, and to graduates of other schools and colleges who are qualified to pursue them, an opportunity for advanced study. Draughtsmen in offices who have had three or four years' practical experience are generally qualified to enter the courses in history and design.

8. *Fellowships*.—There are two Fellowships attached to the school: the "Columbia Fellowship in Architecture," open to all graduates of the department less than thirty years of age; awarded in even-numbered years for foreign study and travel, and of the value of \$1,800, or £260. The "McKim Fellowship," awarded in uneven-numbered years for the like purposes, and of the value of \$2,000, or £400. The holder of this Fellowship is required to remain abroad two years, ten months of which he must spend as a student of the *American School of Architecture in Rome*.

9. *Equipment*.—The equipment of the school consists of about 15,000 photographs and 900 books, the gift of Mr. F. A. Schermerhorn, a classified library of prints and plates, the Avery Architectural Library, of about 10,000 volumes; * a collection of manuscript drawings from the *Ecole des Beaux-Arts*, a collection of casts of architectural details, building stones, tools and materials, and about 5,000 lantern slides of architectural subjects. The students have also the privilege of using the fine General Library of the University of about 250,000 volumes and the Willard collection of architectural casts in the Metropolitan Museum.

COURSE OF INSTRUCTION:

LEADING TO THE DEGREE OF BACHELOR OF SCIENCE.

First Year.

Architectural Engineering: Analytical geometry; the differential and integral calculus.

Ancient Architectural History: Reber's "History of Ancient Art."

History of Ancient Ornament: The decorative forms of Egyptian, Assyrian, Greek, and Roman Art.

Specifications: Wood-work, carpentry and joinery, hardware, painting, glazing, roofing; slow-burning construction; heating and ventilation; a model specification.

Building Materials: Growth and preservation of wood; paints; glass.

Projections, Intersections, and Shades and Shadows (in first half-year).

Elements of Architecture: Mouldings; the Orders, features, arches and arcades, doors, windows, roofs, vaults, domes (in second half-year).

Architectural Essays:

Elementary Design: Problems in design; plans, elevations, and sections.

Historical Drawing: In connection with ancient history.

Drawing, Architectural and Freehand: * Architectural drawing with brush, pencil, and pen. Freehand drawing with pencil, pen and brush; sketching and drawing of ornaments and the figure from lithographs, photographs, and casts; water-colours (this course continues throughout the four years).

Surveying: The theory of surveying; pacing surveys, contouring and levelling; construction, use and adjustment of instruments, &c. (in second half-year—optional).

Summer Vacation.

Surveying: Field and office work, chaining and ranging, adjustment of instruments; azimuth and repetitive traverse, &c. (optional).

Summer Work: Historical memoir, sketches and drawings.

Second Year.

Perspective: Eight lectures in first half-year.

Architectural Engineering: Analytical mechanics, statics, elementary dynamics.

Modern Architectural History: The Renaissance, Modern revivals. Oriental and American architecture, with reading of a French text-book in one class, and of a German text-book in another. Research in library and drawing-room.

History of Modern Ornament: Renaissance, oriental and modern ornament.

Archæology, French: Text-books—Corroyer, "L'Architecture Gothique"; Palustre, "L'Architecture de la Renaissance."

Theory of Colour: The theory of colour (in first half-year).

Composition: Planning, composition and style (in second half-year).

Specifications: Iron work; steel and iron construction, joints, framing and bracing, plumbing (a model specification).

Building Materials: Metals, fire-proofing.

* The time appropriated to this subject exceeds that given to all the other preceding subjects collectively.

* *Vide* JOURNAL, Vol. VII., 1900, p. 396.

Architectural Essays:

Design Problems: Problems involving the use of the Orders (in first half-year).

Historical Designs: Exercises in historical design (in second half-year).

Drawing, Freehand: In connection with modern architectural history.

Summer Vacation.

Surveying: Topographical surveys; city surveys; contour sketching; field and office work (optional).

Summer Work: Historical memoir, sketches and drawings.

Third Year.

Architectural Engineering: Applied mechanics, foundations, retaining walls, walls, pillars, beams, trusses, arches, vaults, and domes.

Mediæval Architectural History: Byzantine, Romanesque, Gothic. With reading of a French text-book by one class, and of a German text-book by another; reports and criticisms, and research in library and drawing-room.

History of Mediæval Ornament: Byzantine and Gothic ornament.

Archæology: German Text-books—Hauser, "Styl-lehre des Mittelalters"; Hauser, "Styl-lehre der Renaissance."

Theory of Colour: The theory of colour (in first half-year).

Composition: Planning, composition, and style (in second half-year).

Specifications: Masonry, stonework, brickwork, plastering, drainage, fire-proofing.

Building Materials: Building stones, artificial stones, cements, asphalt, terra-cotta; a model specification.

Architectural Essays:

Design Problems: Problems relating to planning and composition (in first half-year).

Historical Design: Exercises in historical study and design (in second half-year).

Drawing, Freehand: In connection with mediæval architectural history.

Summer Vacation.

Memoir: On some subjects assigned by the Professor of Architecture.

Fourth Year.

Advanced Architectural History: Reading and writing on special topics, with illustrative designs.

Advanced Architectural Design: Advanced problems in planning and composition.

Advanced Architectural Engineering and Practice: Practical examples in applied mechanics, treated both graphically and analytically; problems in constructive design; the study of building processes.

Descriptive Geometry: Stereotomy, stone cutting.

Drawing: figure, ornament, and water-colours.

Theses: Original design and discussion.

It being most important that, in order to derive full advantage from so completely organised a course of study, the student should have had a thorough preliminary education, and should have learnt how to learn, this satisfactory standard of education is secured from those desiring to take the full course of the School of Architecture by the requirements of the Entrance Examination. Candidates for admission must pass satisfactorily in the eight following subjects, viz.:—

Mathematics: Arithmetic, the metric and ordinary systems of weights and measures, algebra to quadratic equations, geometry, plane trigonometry.

Physics: The equivalent of Hall and Bergen's text-book of Physics, a laboratory course of at least forty experiments.

Chemistry: The non-metallic elements and their important compounds with each other. A laboratory course of at least forty experiments.

English: Reading and composition, evidence of a general knowledge of the subject-matter of prescribed books, and of the lives of their authors, and the subject-matter, literary form, and grammatical and logical structure of certain prescribed books.

French: The elements of French grammar; the ability to read easy French.

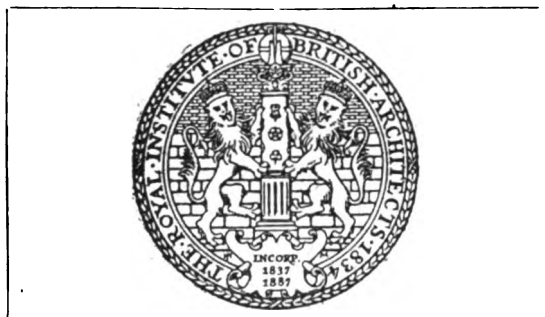
German: The elements of German grammar; the ability to read easy German.

History: The equivalent of Johnston's "History of the United States."

Freehand Drawing: The ability to draw correctly any simple geometrical figure from dictation, to enlarge or reduce from a copy in outline, an anthemion, an acanthus leaf, a scroll ornament, or some similar ornament.

The Matriculation fee is \$5, or £1; the annual tuition fee for the full course is \$200, or £40, payable one half on the first day of each half-year.

Students intending to enter the School of Architecture are recommended to take advantage of the opportunities offered in Columbia College, the undergraduate department of the University, for the reason that architects, as professional men, need the liberal training offered by a collegiate course quite as much as do lawyers, physicians, or clergymen. Experience has shown that those who have taken a liberal course of study in the past, and have enjoyed the advantages of such an education before beginning their technical studies, have attained a much higher standing in the profession, have exercised greater influence in the community, and have been much more useful men, than those who have relied upon a purely scientific or professional course of study.



9, CONDUIT STREET, LONDON, W., 10th Nov. 1900.

CHRONICLE.

Presentation of Professor Aitchison's Portrait.

The Opening Meeting, at which there was a good attendance of members and their friends, was made the occasion of the presentation to the Institute of a portrait of Professor Aitchison, R.A., President 1896-99. The portrait, the work of Sir L. Alma-Tadema, R.A., had been subscribed for by members, and was formally presented on their behalf by Mr. Aston Webb, A.R.A.

Mr. ASTON WEBB said: Mr. President, it is a very interesting matter which leads me to intervene between your audience and your Address; it is none other than to ask you on behalf of the subscribers to accept for the Institute the portrait of your predecessor and our Past-President, Professor George Aitchison, Royal Academician, Royal Gold Medallist, and Professor of Architecture at the Royal Academy, the portrait being painted by Sir Lawrence Alma-Tadema, Royal Academician. [*The portrait was here unveiled, and greeted with acclamation.*] Lord Beaconsfield, in his novel *Tancred*, looking about for a suggestion for the improvement of architecture, thought it would be an excellent thing if an architect were shot! We have never seen our way to carry out that suggestion, but since about that time we have always taken care that our Past Presidents should be *hung*! Whether the improvement of architecture can be attributed to that I do not know, but we have to ask you, Sir, to add this magnificent portrait to the *suspended* Past Presidents who hang round this room. The name of our Past President is such a household word amongst us, and his work has been done and his life has been lived so much amongst us, that it is scarcely necessary for me to say much about him. We all know the delicacy and the refinement of his work, as shown in his Assurance Offices in Pall Mall, as shown in the Founders' Hall in the City, and in Lord Leighton's house, and in many others; we know also his power of colour and his sense of colour which is shown in many houses, notably in Lord Leconfield's, in Sir Wilfrid Lawson's, in a house in Berkeley Square,

and last, but not least, in his exquisite decoration recently completed of a chapel in the great Oratory at Brompton; we know well, too, the great antiquarian and archaeological knowledge that Professor Aitchison possesses. He has shown this in his lectures at the Royal Academy, in his papers and addresses given to us here, which have been none the less acceptable because of the delightful humour and pleasantry he has imparted to them. There is also another side of Professor Aitchison's career which has not perhaps often been mentioned, but which he has equal reason to be proud of, and that is, that with all these high architectural qualities, he has been also for a great many years a most excellent and indefatigable district surveyor. I cannot help thinking that the combination of those two qualities has been a most useful one to the profession to which he belongs. We are, perhaps, a little apt to go by the swing of the pendulum: at one time to think it must be all art, and at another that it must be all practice; whereas we must all feel that it is the combination of both that makes the successful architect. It is of the greatest importance that the district surveyors of London should be men of the highest attainments and men of position, and it must have been a great assistance to architects in his district to have had a man like Professor Aitchison working amongst them. It has never fallen to my lot to have work in his district, but those who have tell me that he devotes the same care and attention to work of that sort that he does to more strictly architectural work, and that he thinks as carefully of carrying out the Building Acts properly as of decorating an ecclesiastical fane. Sir, I am glad to think that the expression of thanks to Sir Lawrence Alma-Tadema for this magnificent portrait will fall properly to your hands, but I am sure that the subscribers would wish me to express to Sir Lawrence on their behalf their great appreciation of this most magnificent picture that he has painted for them. They would also like me to express to him their appreciation of the time and skill he has devoted to it, as well as of his kindness in undertaking it, and their very great obligation to him for accepting an honorarium which we all know full well represents in no possible respect the value of this magnificent picture. We are fortunate in this Institute in having had many distinguished painters to paint our Past Presidents. Sir Lawrence Alma-Tadema himself, who has always been a good friend to us, has already painted one, John Whichcord, which hangs in this room. Then we have a most refined and exquisite work of Cockerell by Boxall; we have a very powerful Horace Jones by Frank Holl; we have a splendid Waterhouse by Orchardson; and we have a wonderful Penrose by Sargent. This portrait, therefore, will be in worthy company. I think anyone looking at the portrait will say *there* is the

man. Someone has been telling a story—I do not know who—perhaps both, the painter and the sitter; and one can fancy in years to come as two members of the Institute go round this room and look at these portraits, one of them will say to the other: “That Aitchison must have been a genial President!” and the other will say “Yes, and what a painter Tadema must have been!” Sir, I say therefore, on behalf of the subscribers, that we think we are handing over to you for the Institute a great possession—one which we hope will remain to brighten and illuminate these dull walls of ours for years and years to come.

THE PRESIDENT.—Mr. Webb, and Gentlemen who have been instrumental in obtaining for us this beautiful work of art, I thank you heartily for the magnificent present you have made to the Institute; and on behalf of the Institute I accept it with heartfelt pleasure. Our thanks are not only due to you, but also to our friend Sir Lawrence Alma-Tadema, who has been willing to turn his genius to painting this splendid portrait of his old friend George Aitchison. It is not only the fact that he has painted the picture which calls for our gratitude, but that he has painted it in such a wonderful way; because in the future when we look at this picture we shall all feel how vividly it speaks to us of the learned scholar, the eminent architect, the genial friend, and the kindest-hearted President that the Institute has ever possessed. I think, Gentlemen, that after what Mr. Webb has said I need not refer to Professor Aitchison’s qualifications for the honour of the Presidentship or of having his portrait presented to the Institute; so many of us here have known him from our earliest days. From the first meeting that I attended at the Institute I remember Mr. Aitchison as one of the most interesting figures here. He had always something scholarly to say, and he always said it in the happiest manner, generally with some touch of humour—some expression of wit or wisdom culled from an old writer or classic work. With regard to the painter, our friend Sir Lawrence, it is only adding one more to the many acts of kindness he has shown to this Institute in painting this picture for us. I can only say, Gentlemen, that I thank you for having been the means of presenting this magnificent work—one of the finest that we have ever had, or are ever likely to have.

The President then called for a vote of thanks to Sir L. Alma-Tadema, which was accorded by acclamation.

SIR LAWRENCE ALMA-TADEMA, R.A. [H.A.]—Mr. President, Ladies and Gentlemen, it was indeed a happy moment for me last year when your President came and asked me to paint the portrait of his predecessor. What can be more enviable for an artist than to paint the portrait of a dear friend for a dear friend, and to meet with such success as I have

found to-night? Professor Aitchison is a dear friend of mine of long standing. I remember his dinner parties in Tower Hill and his evening parties of dates far back. He was always the same—the kindly, genial friend, and that is one of his greatest qualities. If you meet him at any time he always greets you in the same cheery fashion and has ever the same pleasant smile for you. As for the friend for whom I painted it, I hope you will allow me to have the pride of calling the Royal Institute of British Architects my friend. You always receive me in such a kind way that the only thing that remains for me is to assure you of my best thanks.

The Statutory Examinations.

At the General Meeting last Monday the results were announced of the Examinations held by the Institute of candidates seeking certificates of competency to act as District Surveyors under the London Building Act, or as Building Surveyors under Local Authorities. The Examinations took place on the 25th and 26th October, four candidates attending—two for office under the Building Act, and two for office under Local Authorities. The former only were successful—viz.:

HERBERT ALFRED LEGG [A.], of Christ’s Hospital, E.C.

RICHARD DOMINIC HANSOM, of 8 College Gardens, Dulwich.

Both gentlemen have been granted by the Council certificates of competency to act as District Surveyors under the London Building Act.

Obituary.

The President, in opening the proceedings on Monday, referred in terms of regret to the losses which had befallen the Institute since their last meeting by the death of several members, dwelling especially on the most recent, that of Mr. William Young, who died suddenly last week, and at whose funeral on Monday the Institute was represented by Mr. John Belcher [F.], A.R.A. Mr. William Young, the President said, had had a large practice in the country, and an extensive connection amongst the nobility and gentry. He had built houses for Lord Cadogan, Lord Feversham, the Earl of Wemyss, and Lord Iveagh, and was one of the two architects selected for the new Government Office. In the prime of life as he seemed to be, they naturally expected to see him carry out to completion the new buildings for the War Office. Providence, however, had seen fit to call him away, and they all regretted his death greatly. A notice of his career will appear in an early number of the JOURNAL, written by Mr. Brydon, a personal and intimate friend of his for many years. On the motion of the President, the Meeting passed a vote of sympathy and con-

dolence with Mr. Young's widow and family on their bereavement.

The President also referred to another serious loss—viz., that of the Hon. Secretary R.I.B.A. for the Colony of Victoria, Mr. Lloyd Tayler, a notice of whose death appeared in the JOURNAL for September last.

The deaths were also announced of Mr. Joseph Goddard [F.], of Leicester, elected in 1871, and Mr. Charles Henry Driver, elected *Associate* in 1867, and *Fellow* in 1872.

The British School at Athens.

The managing committee of the British School at Athens, in their report for the session 1899–1900, state that the only excavations undertaken by the school this session were those in Crete. Mr. Hogarth has worked with great success on the site of the town of Knossos, and later in the cave at Psychro, which has been hitherto identified—as it now appears, with reason—with the Dictæan Cave. At Knossos, although a careful and systematic probing of the whole surface of the hill did not, as Mr. Hogarth anticipated, reveal the earliest cemeteries, yet the discoveries made were such as to justify amply the labour and expense of the undertaking. A series of primitive houses were found to contain masses of pre-Mycenæan and Mycenæan pottery. Many of the vases of the ware known as “Kamaraes” were unique in shape and ornament, and represent a great advance on previous knowledge. Further evidence of the existence of Pillar worship in the period of Mycenæan culture was also forthcoming. Good Mycenæan painted vases and objects in bronze were found in some of the chambers; and later two unroofed graves in a cemetery of late Mycenæan and early Geometric period yielded many vases, as well as objects in gold, bronze, iron, and paste, unlike anything previously found. The excavation of the Dictæan Cave in May was rewarded by remarkable discoveries. Not only was there in the upper part of the cave abundant evidence of its sacrificial use, in the form of votive objects ranging from the late Kamaraes epoch to the later Geometric, but in the lowest depths of the cavern, where a subterranean pool extends among stalactite formations, the water-borne earth was found to be full of bronze statuettes, implements, weapons, gems, and articles of personal adornment, while even the natural niches in the stalactite formations were in many cases stocked with votive axes, blades, needles, and so forth. “The frequent occurrence of the double Carian axe,” writes Mr. Hogarth, “proves that we have here to do with the Cretan Zeus of the Labrys, and no question remains that in the altar and Temenos, the votive niches, the 700 bronze objects, the multitude of vases (nearly 600 unused cups of one type alone were found), the libation tables in

stone, the implements in bone and iron, we have abundant evidence as to the cult practised in one of the earliest and most holy of Cretan sanctuaries.” The work will be continued in the coming session.

Reference is made to the brilliant discoveries made by Mr. Arthur Evans, working with the aid of the Cretan Exploration Fund, on another part of the site of Knossos, where he was fortunate enough to light upon the remains of a great prehistoric palace which it does not seem fanciful to connect with the name of Minos. The most remarkable finds were a series of wall-paintings which are practically unique in the history of early Ægean art, and upwards of 1,000 inscribed tablets, in various forms of script, partly hieroglyphic and partly in signs of an alphabetic character, which form a most important addition to the seals previously found by Mr. Evans in other parts of the island, and cannot fail to throw welcome light upon the early history of writing. In this work Mr. Evans has been assisted by a former student, Mr. Duncan Mackenzie, as well as by the school architect, Mr. Fyfe.

The monograph on St. Luke's Monastery at Stiris in Phocis, which represents the first instalment of the valuable studies on Byzantine architecture in Greece made some years ago by two students of the school, Mr. R. W. Schultz and Mr. Sidney Barnsley, will shortly be published by Messrs. Macmillan & Co. The cost of the plates has been met by a generous contribution from one of the trustees of the school, Dr. Edwin Freshfield.

Mr. D. G. Hogarth, Director of the School since 1897, is succeeded by Mr. R. Carr Bosanquet.

It is satisfactory to note that the Government has renewed its grant to the School of £500 per annum for a further period of five years.

The Proposed British School at Rome.

With regard to the project for establishing a British School at Rome, the committee of the British School at Athens report that considerable progress has been made in drafting a scheme for the school at Rome, and an attempt was made privately to raise funds to enable it to be started this autumn on however small a scale, but the effort has met with only limited success. In spite of this discouragement a very competent Director has been provisionally appointed in the person of Mr. Gordon Rushforth, of Oriel College, Oxford, who knows Rome thoroughly and has shown expert knowledge alike in the field of Latin epigraphy and of Italian art.

Mr. Rushforth, it is stated, will probably go to Rome before Christmas, prepared to direct the studies of such students as may present themselves, and it is hoped that in the course of the next few months it may be found possible to raise, whether by donations or annual sub-

scriptions, sufficient funds to give the experiment a fair trial.

National Registration of Plumbers.

The recent Conference held in Birmingham under the auspices of the Plumbers' Company, in furtherance of the scheme for the National Registration of Plumbers, passed the following resolutions:—

On the proposition of the Chairman, Mr. Robert Crawford, seconded by Dr. Alfred Hill,

"That in the opinion of this Conference, representing the Public Health and Water Authorities and the Master and Operative Plumbers of Great Britain and Ireland, it is desirable, and would be a great public advantage, if a measure should be passed through Parliament with the object of protecting the public from the results of bad and incompetent workmanship, and securing the efficiency and responsibility of plumbers through a system of registration of the qualified Masters and Operatives; and that it is the duty of the Government, acting in the public interest, to carry through a measure with this object."

On the proposition of Dr. Williams (Plymouth), seconded by Bailie Dick (Glasgow),

"That twelve representatives of the District Councils be appointed to act in conjunction with the Company in approaching the Local Government Board for the purpose of framing a scheme for a Plumbers' Registration Bill, and taking such steps as they may deem necessary for such legislation."

On the proposition of Professor Matthew Hay, Aberdeen, seconded by Dr. Bostock Hill, Birmingham,

"That this Conference approves of the establishment of two grades of registration, one for operative plumbers, in which the examinations would be essentially a test of workmanship and an oral examination substituted for the present written examination; and the other requiring a higher standard of technical knowledge for master plumbers, inspectors, and plumbers occupying similar positions; and that it be remitted to the Company and the representatives of the Conference already appointed to prepare a scheme under this Resolution, including the question of fees, and after submitting it to the District Councils for their opinion, and finally adjusting it, to put the scheme into operation."

Architects' Benevolent Society.

The Honorary Treasurer of the Architects' Benevolent Society has received the following contributions in response to the Appeal issued in June by the President and Honorary Secretary:—

	Donations.			Subscriptions.		
	£	s.	d.	£	s.	d.
*Adams: P. H.				2	2	0
*Aitchison: Professor G.	1	1	0			
Ambler: L.	1	1	0			
*Anderson: J. Macvicar	10	10	0	3	3	0
*Ashbridge: Arthur	5	5	0			
Atkins: N. H.				1	1	0
Atkinson: T. D.				1	1	0
Bailey: T. J.	3	0	0	1	11	6
Bartleet: S. F.	10	10	0			
Beckett: George F.				1	0	0
Blanc: H. J., R.S.A.				1	0	0
Bowyer: Edmund M.				0	10	6

	Donations.			Subscriptions.		
	£	s.	d.	£	s.	d.
Brameld & Smith, Messrs.				1	1	0
*Carde: W. D.	2	2	0			
Clay: Felix				3	3	0
Cockrill: J. W.				0	10	6
Collins: E. G.				0	10	0
*Cooke: W. G.				0	5	0
Craig: Vincent				0	10	0
Crawford: A. R.	0	10	0			
Davies: G. Humphreys.				1	1	0
Davies: D.	0	5	0			
Deakin: A. B., & W. Scott, Messrs.				1	1	0
*Devon and Exeter Architectural Society				1	1	0
Dick: R. Burns				1	1	0
Dinwiddy: T.	21	0	0			
*Drury: E. Dru	1	1	0			
*Dunch: Charles	2	2	0			
Dyball: H.	1	1	0			
Farrall: Thomas	1	1	0	1	1	0
Fawcett: W. M., M.A.	20	0	0			
Ferguson: C. J.	1	1	0	1	1	0
Graddon: H. T.				2	2	0
Grant: Wm. L.				1	1	0
Grayson: H.				0	10	6
Green: Arthur	10	10	0	10	10	0
Guy: A. L.				1	1	0
*Hall: Edwin T.				1	1	0
Haslehurst: E.				1	1	0
Hayward: Arthur B.				1	1	0
Heazell: W. A. & Son, Messrs.				1	1	0
*Hills: Osborn C.	2	2	0			
Hoare & Wheeler: Messrs.				2	2	0
Hoffmann: P.	5	5	0			
*Hooper: T. R.	1	1	0			
Hopkins: W. B.				1	1	0
Hubbard: George				1	1	0
Jacob: Louis	1	1	0	0	10	6
Kelsey & Head, Messrs.	2	2	0			
Kerr: Robert H.	2	2	0			
Keynes: J. A. J.				1	1	0
Knight: Samuel				1	1	0
Knightley: Thos. E.				2	2	0
Lawrence: Benj.				1	1	0
Lucas: R. McD.				1	1	0
*Martin: G. D.	1	1	0			
Meakin: F.				1	1	0
*Monson: E.	5	5	0			
per Monson: E.						
Burt & Potts, Messrs.				2	2	0
Edwards: J. C.				1	1	0
Fenning & Co., Messrs.				1	1	0
Hayward Bros. & Eckstein, Messrs.	1	1	0			
Leggott: W. & R., Messrs.				1	1	0
*Nash: W. Hilton	5	5	0			
Newman: James				1	1	0
Oatley: G. H.				1	1	0
*Pain: Wm.	0	5	0	2	2	0
Paterson: A. N., M.A.				0	10	6
Pearson: F. Loughborough				2	2	0
*Perry: J. Tavenor				1	1	0
Ransome: James				0	10	6
Reavell: Geo. junr.				0	10	6
Rhind: J. R.				0	5	0
Rochester: Charles D.				1	1	0
Ryan: W. P.				1	1	0
Scrymgeour: W. H.				2	2	0
*Searles-Wood: H. D.	1	1	0			
*Shearman: E. C.				1	1	0
Smith: J. R.	1	1	0			

	Donations.			Subscriptions.		
	£	s.	d.	£	s.	d.
*Snell: A. Saxon	21	0	0			
Snell: Henry J.				2	2	0
Spiers: W. L.				1	1	0
Stewart: Wm.	1	1	0	1	1	0
Stott: Sidney.				5	5	0
Street: E.				2	2	0
Stevens: E. J.				1	1	0
Sugden: H. Townley				2	2	0
Sulley: Henry				1	1	0
Tanner: Henry				1	1	0
Ward: W. H.				0	10	6
Waymouth: George				1	1	0
*Wigglesworth: H. H.	2	2	0			
Williams: W. W.	5	0	0	1	1	0
Wilkinson: R. Stark				1	0	0
Willink & Thicknesse, Messrs.				2	2	0
Wood: D. H. S.	2	2	0			
Woodard: J. T.				1	1	0
	£151	17	0	98	9	6

Contributions received prior to the issue of the Appeal.

	Donations.			Subscriptions.		
	£	s.	d.	£	s.	d.
Anderson: H. L.	10	10	0	1	1	0
Boardman: E. T.				1	1	0
*Brydon: J. M.	2	2	0			
Humphreys: G. A.	1	1	0			
*Ingelow: B.	2	2	0			
*Inskipp: G.	5	5	0			
*King: C. R. Baker	1	1	0			
Parry: W. Kaye, M.A.				1	1	0
Slater: John, B.A.				2	2	0
Smith: Albert E.	2	2	0			
*Society of Architects	2	2	0			
Taylor: Sir John, K.C.B.				1	1	0
*Vaughan: C. Evans	2	2	0			
	£28	7	0	6	6	0

* Denotes contributions in addition to donations or subscriptions formerly given.

The Work of Inigo Jones.

Since the issue of the Sessional Programme, the Art Committee have arranged to give a Paper on the above subject instead of on "The Work of Sir Charles Barry" as first announced. The Paper will be read on the 22nd April.

MINUTES. I.

At the First General Meeting (Ordinary) of the Session 1900-1901, held Monday, 5th November 1900, at 8 p.m., Mr. William Emerson, *President*, in the Chair, with 36 Fellows (including 18 members of the Council), 24 Associates (including 2 members of the Council), 2 Hon. Associates, and numerous visitors, the Minutes of the Meeting held Monday 18th June [p. 428, Vol. VII.] were taken as read and signed as correct.

The President having referred to the sudden demise of Mr. William Young, *Fellow*, moved, and it was thereupon *Resolved*, that the Institute do record its deep regret at the loss it has sustained by the death of Mr. William Young, *Fellow*, and that a letter expressive of the Institute's sympathy and condolence be sent to his widow and family.

The decease was also announced of the following Fellows:—Lloyd Tayler, of Melbourne, Victoria, elected 1875; Joseph Goddard, of Leicester, elected 1871; Charles Henry Driver, elected *Associate* 1867, *Fellow* 1872.

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, and admitted by them to candidature, were recommended for election, viz.:—As FELLOWS, Louis Ambler (*A.* 1888); Thomas Phillips Figgis (*A.* 1889); Herbert George Ibberson (*A.* 1889); Edward Jeaffreson Jackson (Sydney, N.S.W.); Charles E. Mallows (Bedford); John William Simpson (*A.* 1882). As ASSOCIATES, Samuel Chesney (*Probationer* 1892, *Student* 1895, *Qualified* 1900) (Stourbridge); George Edward Clay (*Probationer* 1890, *Student* 1894, *Qualified* 1900) (Warrington, Lancs.); Charles Heaton Fitzwilliam Comyn (*Probationer* 1895, *Student* 1898, *Qualified* 1900); Harold Cooper (*Probationer* 1896, *Student* 1897, *Qualified* 1900) (Blackburn); Charles Archibald Daubney, P.A.S.I. (*Qualified* 1900, *Special Examination*); William Ernest Emerson (*Probationer* 1895, *Student* 1896, *Qualified* 1900); James Ernest Franck (*Probationer* 1893, *Student* 1897, *Qualified* 1900); Arthur Reginald Groome (*Probationer* 1893, *Student* 1896, *Qualified* 1900) (Manchester); Herbert Haines (*Probationer* 1893, *Student* 1895, *Qualified* 1900); Emanuel Vincent Harris (*Probationer* 1893, *Student* 1897, *Qualified* 1900); John Stanley Heath (*Probationer* 1895, *Student* 1897, *Qualified* 1900); William Bonner Hopkins (*Qualified* 1893); Percy Erskine Nobbs, M.A. Edin. (*Probationer* and *Student* 1897, *Qualified* 1900) (Edinburgh); Sidney Vincent North (*Qualified* 1900, *Special Examination*); Cyril Wontner Smith (*Probationer* 1893, *Student* 1897, *Qualified* 1900); William Herbert Swann (*Probationer* and *Student* 1899, *Qualified* 1900); Alexander Symon (*Probationer* 1898, *Student* 1899, *Qualified* 1900); Andrew Mitchell Torrance, Jun. (*Probationer* 1893, *Student* 1897, *Qualified* 1900); Robert Percival Sterling Twizell (*Probationer* 1897, *Student* 1898, *Qualified* 1900) (Newcastle-on-Tyne); Charles Edward Varndell (*Probationer* 1896, *Student* 1899, *Qualified* 1900); Clyde Francis Young (*Probationer* 1895, *Student* 1898, *Qualified* 1900). As HON. ASSOCIATE, Edmund William Smith, Member of the Royal Asiatic Society, Archaeological Surveyor to the Government of India, N.W. Provinces and Oudh Circle, and Curator of the Lucknow (Government) Museum, Oudh. As HON. CORRESPONDING MEMBERS, Joseph Antoine Bouvard, Director of the Architectural Works of the Paris Exhibition, 1900; L. C. Pedro D'Avila, Hon. Architect to the King of Portugal, Architect to the Government, Member of the Royal Academy of Fine Arts, Lisbon.

The results were announced of the Statutory Examinations held by the Institute on 25th and 26th October [page 21].

A subscription portrait of Professor Aitchison, R.A., *Past President*, painted by Sir L. Alma-Tadema, R.A., [H.A.], having been presented for the subscribers by Mr. Aston Webb, A.R.A. [F.], and accepted on behalf of the Institute by the President, a vote of thanks to the painter was carried by acclamation and briefly acknowledged.

The President having delivered the OPENING ADDRESS of the Session, a vote of thanks, moved by Mr. Alfred Waterhouse, R.A., LL.D. [F.], and seconded by Mr. G. F. Bodley, A.R.A. [F.], was passed to him by acclamation.

The proposed alteration of the steps of St. Martin's Church having been mentioned and strongly deprecated by various speakers, the President stated that the Council had the matter under consideration, and would shortly be in a position to represent their views to the London County Council.

The proceedings then closed, and the meeting separated at 10 p.m.



FIG. 1.—FRIEZE FROM THE BASILICA AEMILIA.*

ARCHITECTURAL RESULTS OF THE LATEST EXCAVATIONS IN THE FORUM AT ROME.

By Comm. RODOLFO LANCIANI, D.C.L. Oxon., Professor of Roman Topography in
the University of Rome [*Hon. Corr. M.*].

Read before the Royal Institute of British Architects, Monday, 12th November 1900.

WHEN the three or four villages which occupied the sacred soil of Rome, the Latin village of the Palatine, the Pelasgic of the Capitoline, the Etruscan of the Cælian, and the Sabine of the Quirinal, were amalgamated into one city by one of the early kings, a piece of ground was set apart in the intermediate valley as a common market-place, as a common place of assembly—better known by the name of Forum. There was another landmark in those early days, the path which crossed the valley of the Forum lengthwise, forming the main artery of communication between the various tribal settlements; and this became, in progress of time, the celebrated Sacra Via. It is over this Forum and over this Sacred Way that I shall take the liberty to guide you this evening, that we may examine and study together the results of the latest excavations, and of the latest discoveries.

The reason why such splendid success has attended these excavations in a district which has been searched and laid bare so many times before is very simple. Former excavations, including those in which I have had a personal share since 1870, have always stopped at the higher level of ruins. As soon as the pavement of a street, of a house, of a public building, was exposed to view, we were asked to stop, without being able to ascertain whether under those structures of the late Empire there were deeper and older strata of even greater archaeological interest. For instance, when the pavement of the Vicus Vestæ was laid bare in 1882, the search was given up as soon as the first paving-stones came in sight. Two or three years later Professor Richter was able to discover the foundations of the triumphal arch dedicated

* The illustrations to this Paper are reproduced from the lantern slides shown at the Meeting.

by the S.P.Q.R. to Augustus after the victory of Actium, only eight or ten inches below the level at which our search had stopped. In like manner, the oldest existing relic of Rome, viz. a tholos or conical-domed cistern, of Mykenæan type, has just been discovered on the Palatine hill, eight or ten inches below the level of the neighbouring ruins. Considering these things, and remembering that the Roman Forum and the region of the Sacra Via were swept by fire and rebuilt *ex-novo* at least four times under the Empire, the determination was taken to probe that precious piece of ground down to the level of the virgin soil, wherever it was possible to do so without injury to the higher and later structures. The works have been carried out in the most admirable manner by our colleague, Comm. Giacomo Boni, in conjunction with a committee of four archæologists, of which I am myself a member.

The results of this campaign have surpassed our most sanguine expectations, not so much in the field of art in general and of architecture in particular, as from the archæological and historical point of view. But, modest as they are, the architectural discoveries are undoubtedly worthy of being brought to your notice. I shall indicate to you the most remarkable points, if you kindly follow me in a short but I hope delightful walk over the Forum and the Sacra Via.

Let us start from that special section of the Forum which was called Comitium, and which occupied the space between the north end of the Forum itself and the Senate-house. Here, in the spring of last year, a monument was found which was identified at once with the heroon, or cenotaph, or empty grave of Romulus, the founder of the city—a monument seen and described or spoken of by many historians of early Rome. The announcement of this extraordinary find was received by the modern negative or hypercritical school with an outburst of hilarity, and we—believers in the authenticity of Roman tradition in its fundamental lines—were scorned and taxed with childish credulity.

Nearly two years have elapsed since the finding of that monument, and the controversy concerning its nature and date and destination has ended in our favour. We can announce now without hesitation that this monument is the identical one raised in honour and in memory of Romulus at the time when Rome was still ruled by the kings, and that we behold, that we can touch with our own hands, the cenotaph of the hero who founded our native city 2,653 years ago.

While among the primitive tribal settlements of Pelasgic origin all the dead were regarded as becoming in a sense gods (*dii manes*, *χθόνιοι*), and received duteous worship from the family at the family hearth, in like manner the founders of villages and cities and great benefactors were honoured by the villagers and citizens with public sacrifices and festivals on the anniversary day of the foundation of the settlement, which fell, for Rome, on the twenty-first day of April. The deification of Romulus is not a late Greek fable, as some recent critics contend, but a fact absolutely proved by the discoveries I am about to illustrate.

The heroon is, or was, composed of six parts or elements, namely :

- (a) The cenotaph, or empty grave.
- (b) The two lions which guarded it on either side.
- (c) The pillar of honour.
- (d) The stone inscribed with the *lex loci*, or rules concerning the local worship.
- (e) The altar.
- (f) The sacrificial stone.

The whole group was found embedded in layers of sacrificial remains, such as charred bones of victims, small vases, clay discs representing cakes, figurines of bronze or bone or clay representing men or women in the stiffness of death and draped in shrouds, pieces of *res rude*, and so forth. And as the whole group lies at a considerable depth under the level

of the Imperial Comitium, so its site was indicated by a square enclosure, surrounded by a marble transenna, and paved with black stone—the famous *lapis niger* of Festus and Varro [fig. 2].

First as to the cenotaph. It has been found filled up with earth and decomposed organic remains, without any trace of a cinerarium or ossarium, which stands to reason, and in perfect accordance with the Roman tradition and the popular belief in the fate of Romulus, who was considered to have been bodily transferred to Olympus after his miraculous disappearance from the Campus Martius, where he was holding a review of the army.



FIG. 2.—EXTERIOR VIEW OF THE NIGER LAPIS.

The abundance of organic matter in the earth which fills the grave is easily explained if we remember the practice, so common in those times, of slaying the victims so that their blood might flow inside and give joy and satisfaction to the spirit of the hero and appease his

wrath. The mysterious and irresistible power of the same spirit was symbolised by one or two lions—an Oriental conception which, originating in Egypt and Assyria, had spread from a remote period to the Ægean islands, to Greece, and was made popular in Italy by the Pelasgic immigrants. I need hardly quote the well-known instance of Leonidas, in whose honour a stone lion was set up on the very hillock in the pass of the Thermopylæ where he and his gallant followers had made their last stand. Varro, speaking of the same monument of Romulus which we have rediscovered, uses the expression, “sicut in sepulchris videmus” (“as we see in other heroic tombs”).



FIG. 3.—INSCRIPTION ON STELE—NIGER LAPIS.

Another characteristic of the graves of heroes were pillars of stones, first conical and tapering in shape, later on transformed into regular columns, of which the Columna Maenia, the pillar of the Charioteer, the naval pillar of Duilius are the oldest representatives in the Forum. The one discovered near the pedestal of the west lion, although mutilated by one-third, is still *in situ* to tell the tale. These tokens of honour in memory of great men and of public benefactors derive their origin from the men-hirs, or rude monolith obelisks so

common in lands once controlled by the Druids—although they are by no means a Druidic

speciality, as is shown by the recent discovery of standing men-hirs made by Andrea Vochieri in the region of the Messapians near Taranto.

The interest of this beautiful chain of discoveries culminates in the inscribed stele or pyramid [fig. 3] still standing, after twenty-six centuries, on the identical site on which it was set up at the time of King Numa or King Servius. The inscription engraved on this rough block of tufa has been given the place of honour among the 95,000 epigraphic documents which have been collected all through the Roman empire for the *Corpus Inscriptionum*. It precedes by a couple of centuries what was considered up to the date of its discovery to be the very

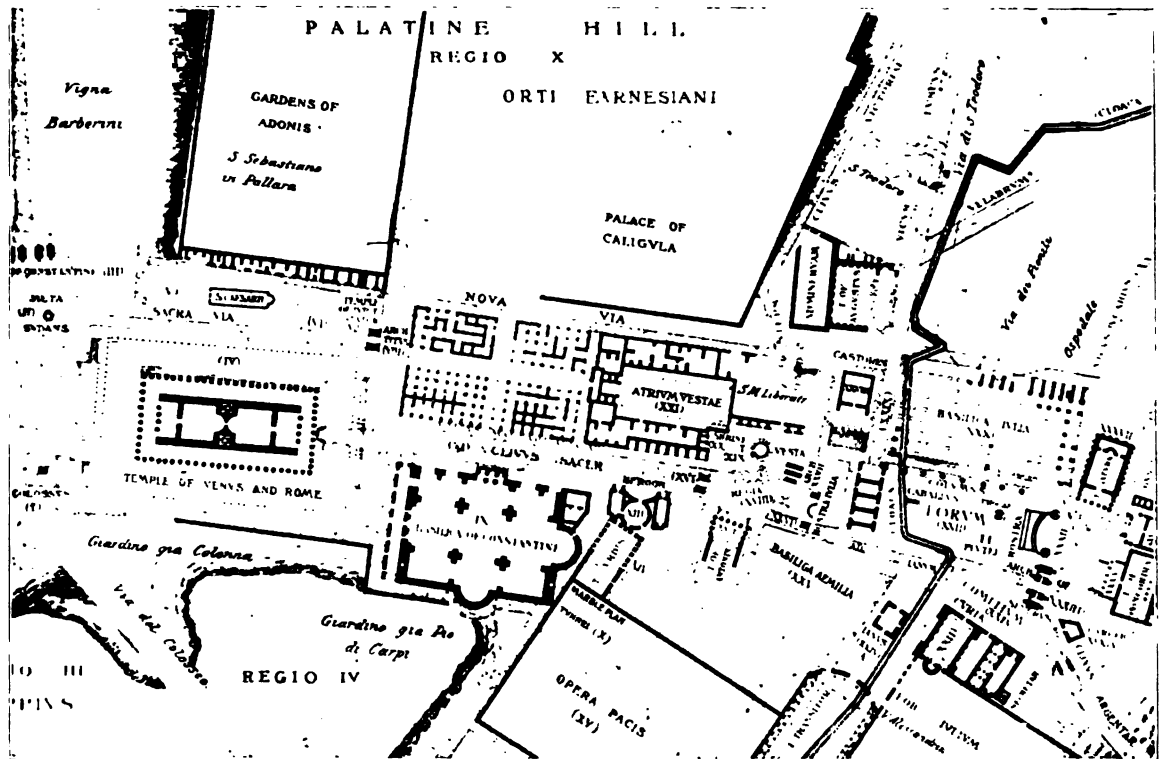


FIG. 4.—PLAN OF THE SACRA VIA.

oldest specimen of the Latin language and Latin palæography, the so-called cup of Duenos, now in the Berlin Museum.

Much has been written, and disputed, about this remarkable stele during the last eighteen months, but glottologists and philologists disagree about it more violently than ever. The following three conclusions may be considered to give a fair and impartial view of the case:—

1. In the present state of glottological and philological science it is impossible to interpret an inscription which contains over sixty per cent. of words hitherto unknown and which is mutilated by one-half, if not by two-thirds.

2. Judging from the signification of the words which have passed into the Latin language, the stele must have contained regulations issued by the king-high-priest in connection with hero-worship at the grave of Romulus.

3. The date of the document is the first half of the sixth century before Christ.

In conclusion we have before us, for the first time as far as Roman excavations are con-

cerned, an heroic monument erected 2,600 years ago, by an Etruscan architect and stone-cutter, simple but not inelegant in his architectural conception. This venerable antiquity is by itself sufficient to place the heroon among the greatest discoveries of the age, even if you hesitate to connect it, as we do, with the founder of the city

Septem alta jugis, toto quae praesidet orbi !

And now let us resume our walk over the *Sacra Via*. Why this primitive line of communication between the Latin, Pelasgian (Saturnian), Sabine, and Etruscan villages, constituting the amalgamated city of Rome, came to obtain that name, it is difficult to say. One thing we know, at all events, that the Sacred Way is not an institution special to Rome. Sacred Ways are to be met with in the lands of the Druids—for instance, at Carnac, lined with thousands of sacred stones; they are to be met also in the British Isles, especially on the west coast. Such I believe to be the “Lines of Clava” near the battlefield of Culloden, and the lines in the Ross of Mull, where Dr. MacLachlan has traced for a distance of seven miles a series of granite monoliths, about six feet in height and spaced so that one is always in sight of the next.

The topography of the *Sacra Via* of Rome was, however, very different in kingly republican times from what it appeared under the Empire. Geological exploration of the ground has shown among other things that the primitive path crossed the ridge of the Velia, not by the Arch of Titus, as it does now, but some fifty yards north of it, where the church of S. Francesca Romana now stands. The furrow followed by the path was discovered by Nibby in 1832, by means of borings through the clay or marl strata of which the ridge is composed. The whole course of the primitive *Sacra Via* was irregular and winding, as becomes a much-frequented lane over undulating and broken ground, not yet encumbered by buildings or obstacles of any kind. But as soon as buildings began to be erected on either side it took a definite shape, and corners were substituted for windings, until the street was made to turn at right angles four or five times.

The transformation was obviously accomplished by degrees, first at the end of the Republic, when the street was made to run between the newly-erected temple of Julius Cæsar and the Forum, and last at the end of the classic Empire, when Maxentius erected the basilica or court-house which bears the name of Constantine.

The first newly-discovered monument we have to take into consideration is the Basilica Æmilia [fig. 5].

The excavations began in June of last year, in that space of ground which had been so generously placed at our disposal by Mr. Philipps. We were sanguine at that time that the search would be crowned with signal success, because, among the 30,000 records of diggings which

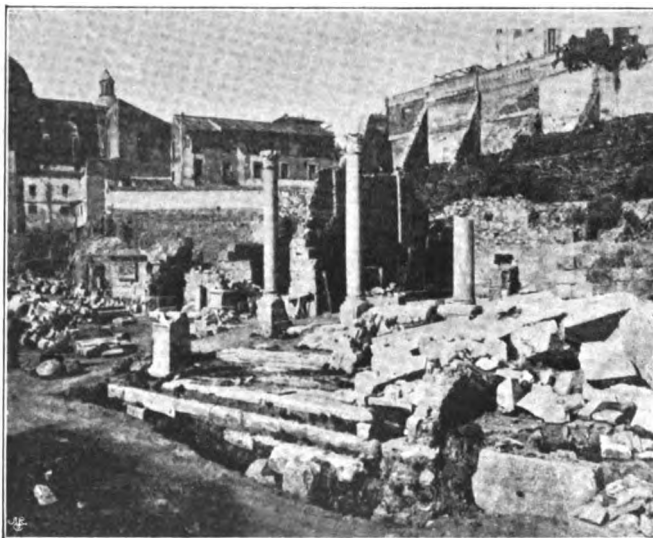


FIG. 5.—BASILICA ÆMILIA EXCAVATIONS.

I have collected for my *Storia degli Scavi di Roma* (to be published shortly), two or three only, and very doubtful ones, seemed to refer to that locality. The spade, however, has told a different tale, and we have learned by experience the possibility of this extraordinary fact: that a building of the first magnitude like this Basilica Æmilia, proclaimed by classic writers the finest of its class in the world, could have been excavated to the very root of the foundations, deprived of its hundred columns, that tens of thousands of feet of its gracefully carved marbles could have been burnt into lime or turned into new shapes and purposes, without a single record being left of the titanic deed of destruction.

The history of the place is briefly this. First constructed in 179 B.C. as a court-house by the censors, M. Fulvius Nobilior and M. Æmilius Lepidus, under the name of Basilica Fulvia, it was largely restored a century later by another Æmilius, Consul in 78. His son,



FIG. 6.—RESTORATION OF THE BASILICA ÆMILIA, BY SIGNOR GATTESCHI.

L. Paullus, having received from Julius Caesar a share of the plunder of the Gauls, amounting to 1,500 talents, or £5,000,000, if gold be taken at twopence a grain, rebuilt the Basilica on a larger scale and with the most precious materials that the architectural market of the golden age could supply. The works lasted 25 years, and the solemn dedication took place in 34 B.C. Augustus and Tiberius brought the building to absolute perfection. Imagine therefore our bitter disappointment at finding the place not only a mass of charred remains, but altered in its original design, so that we can hardly make out where the central hall was, where the aisles, the vestibule, or the Chalcidicum, where the offices of the judges, of the clerks, of the lawyers, of the record-keepers.

We have learned, much to our regret, that the Basilica Æmilia must have been gutted and wrecked in the great fire of 283 under the Emperor Carinus: that it was hastily and disgracefully restored by the Emperor Diocletian in the clumsy style which characterises the

patchwork of the Decadence. We have learned also that whatever parts were left standing of the Basilica at the end of the fourth century were pulled down to make use of the materials for the building of the church of St. Paul on the road to Ostia.

And now that I have given you the painful side of the case, let me add, by way of consolation, that by probing into the quick of the old Basilica, by tracing the lines of the



FIG. 7.—TEMPLE OF ANTONINUS AND FAUSTINA.

foundation walls, by sorting the fragments of its architectural decorations, we have been able to reconstruct the original design in plan as well as in elevation, as shown in the restoration [fig. 6], a much appreciated work of my friend and pupil, Signor Giuseppe Gatteschi.

Progressing along the Sacra Via towards the ridge crowned by the Arch of Titus, let me mention incidentally that the temple of Antoninus and Faustina [fig. 7] has gained not a little in appearance by the latest operations. Not only has the beautiful structure been freed from

its ignoble surroundings, but it has been restored to its original height and to its original perspective point of view; in other words, it has been found that the pavement of the *Sacra Via* which runs in front of the *pronaos* is four feet higher than the original one; and that there were five steps of the original stairs buried under the mediæval pavement. This last has been removed, the five steps rediscovered, and the temple made to appear again under the noble and slenderly graceful proportions of its original design.

The road we are following must have obtained the name of Sacred from the three sacred huts which lined its southern border, the huts of the domestic gods or *Penates*, the hut of the perpetual fire, and the hut where the high priest was wont to reside. The hut was subsequently transformed into an exquisite marble building, on the outside walls of which were engraved the *Fasti Cons. et Triump.*, i.e. the official records of Roman history and chronology. The *Fasti Triumphales* began with the victory of King Romulus over the people of *Cænina*; the *Fasti Consulares* with the name of Brutus, who was raised to the dignity of Consul soon after the expulsion of the last king, Tarquinius Superbus. This beautiful building, one of the most interesting in the Roman world from an architectural and historical point of view, was found almost intact by the builders of St. Peter's in 1543. It took thirty days to destroy it to the level of the foundations: and many invaluable records of names and dates perished in the limekiln. What is left *in situ* to tell the tale of the *Regia* is shown in the illustration, fig. 8.

Two relics of the *Regia* more particularly claim our attention: the circular structure in the inner hall which appears so conspicuous in this photographic view, and a store pit or underground tholos, of which only the opening is seen level with the floor, near the remains of a square altar.

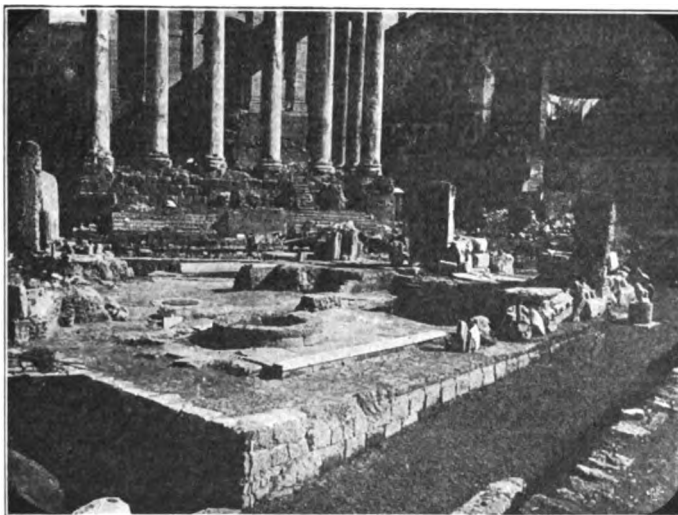


FIG. 8.—RELICS OF THE REGIA, SHOWING THE SACRARIUM MARTIS.

It has been suggested that the circular base may be a relic of the sanctuary in which the spears of Mars were kept; while the store-pit and the altar have been identified with the *Ops consivia*, a goddess of harvest, whose presence and worship in the *Regia* are attested by many historians of early Rome. "It is not without emotion," says Boni in his last contribution to the *Nineteenth Century*, "that we turn our attention to the nature and object of these sacraria, connected as they are with the age when man lived in harmony with nature, and when every natural mystery was to him a sacred one."

The spears of the *Regia* were venerated as the weapons of Mars, the mythical father of Romulus. They were wooden rods with metal points, two of which have actually been found in the present excavations of the Forum, although at a great distance from the *Regia*. The chapel in which they were kept was an actual and genuine seismographic observatory, where earthquakes were observed, registered, and expiated. The registers of these observations, made by means of the oscillations of the spears (and possibly of the sound they produced by striking a sonorous surface in their vibrations), seem to have been kept from a very early date,

because Aulus Gellius, who has borrowed more than once information from such a document, calls it "veteres memoriæ," (old records).

But let us leave the Regia and step just across the lane which divides it from the Cloisters of the Vestals, that I may point out to you certain incidents in the history, and certain particulars about the architecture of the place which have lately been ascertained.

Vesta was regarded as the tutelar goddess of the Roman Empire: the keeping of the perpetual fire on her altar was considered the token of the perpetuity of the Roman domination over the world. Her worship was so closely connected with the very existence of the commonwealth, that when the seat of government was transferred by Augustus from the Forum to the Palatine Hill, another temple of Vesta had to be built in connection with the imperial palace, so that the goddess might closely watch over, inspire, and protect the ruler. Vesta, moreover, was the virgin goddess *par excellence*; she had bound herself to perpetual chastity since the days when Apollo and Poseidon were pressing her into marriage. Any infraction of the vows of chastity which her priestesses made on entering the cloisters was punished with the most horrible of deaths. Vesta the Virgin was at the same

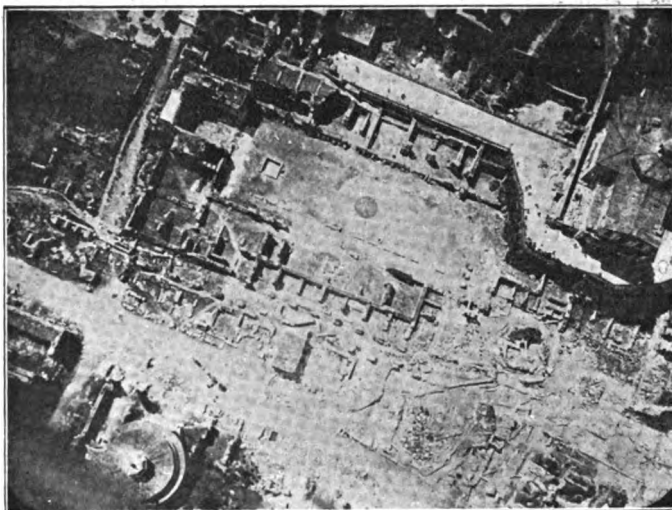


FIG. 9.—HOUSE OF THE VESTALS—BALLOON VIEW.

time called Vesta the Mother, in connection with the commonwealth placed under her maternal care.

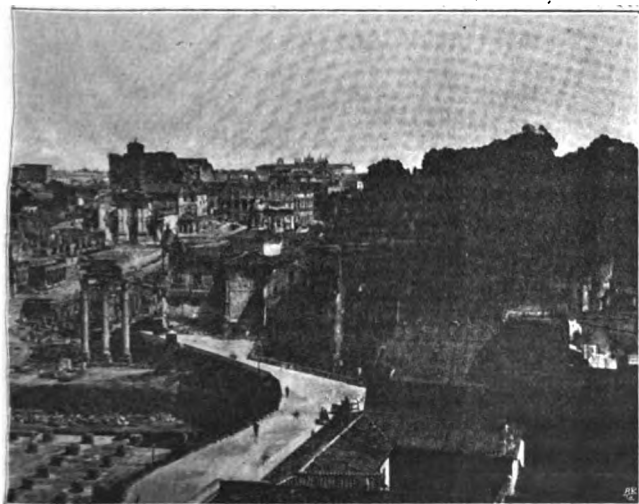


FIG. 10.—THE AUGUSTEUM.

As soon as Constantine gave peace and freedom to the Church, Pope Sylvester determined to oppose to the superstitious worship of the virgin-mother goddess, that of the Immaculate Mother of the Redeemer. And as in those days the Christians abhorred the idea of making use of heathen temples, and of burning incense on the same altar where sacrifices had been offered to the false gods, Pope Sylvester did not occupy any part of the great cloisters of the Vestals, but the back or inner hall of the Augusteum, a hall which had been used for centuries for the posting of state

notices and imperial decrees. And here the image of Mary was raised almost face to face with that of Vesta, the two places of worship being separated only by a narrow street. It is the

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recollection of these historical events that makes this corner of the old Forum one of the most interesting in the whole city. On entering the Cloisters of the Vestals by the *ædícula* the first monument you meet is the pedestal of Claudia, the first and the only priestess of Vesta who gave up her exalted position to embrace the Christian faith; and stepping across the *Nova Via* you enter this colossal temple of the deified Roman emperors, the excavation of which was still progressing when I left Rome at the end of last spring. I believe that architects will find in this *Augusteum* a new and unexpected subject for their studies, so different is the plan and the elevation of the building from any known design of a Roman public building, and so wonderful is its preservation. The building does not stand isolated on its own ground, but it is connected with the palace of Caligula, and with the state stairs which descend to it down to the level of the Forum. We are told by the biographer of that crazy young emperor how he used to steal unobserved out of his apartments and enter by a back postern the temple of Castor and Pollux, and seat himself between the images of the two heroes, so as to obtain a share of the divine honours paid to them by the unsuspecting worshippers. We already know from the discovery of other such stairs within the palace how the imperial architects, possibly the emperors themselves, objected to steps, and that whenever the plan of the building allowed it to be done, they substituted for steps inclined planes, with an easy gradient of 6 or 7 in 100, interrupted by horizontal landings. Such is also the design of the newly discovered descent trodden by the feet of Caligula on his way to the temple of Castor and Pollux. And when the building was Christianised by the victorious Church, and took the name of *S. Maria Antiqua*, and was placed under the keeping of Greek monks, its walls were covered with frescoes representing Biblical scenes, scenes from the New Testament, figures of saints, and even of historical personages, like Pope Paul I., under whose pontificate (757-768) most of these frescoes were painted by Byzantine artists. It is a remarkable evolution of fate, indeed, that, following in the footsteps of Caligula down the "*escalier d'honneur*" of the imperial palace, we should meet with the solemn figures of Eastern and Latin saints, Blasius, Benedict, Christopher, Basilus, and Laurence, painted by Byzantine artists centuries ago!

Rome is indeed a singular and unique city! It is only among her noble ruins that you find wonderful corners like this, where without any effort of imagination, but at the simple sight of your surroundings, your meditations are led over the lapse of centuries, from the worship of the Madonna to that of Vesta, from the temple of the gods who announced to the Romans the victory of Lake Regillus, to the Olympian abodes of the deified Cæsars, from the monastery of the Basilian monks to the cloisters of the Vestal Virgins, from the solemn chant of the Psalms to the singing of Horace's *Carmen Sæculare*!

I have only one more discovery to mention, that of the Imperial warehouses for Indian goods which have been brought to light on the left of the ascent. This establishment, officially known by the name of *Horrea Piperataria*, was built by the Emperor Domitian about 84 A.D., for the storage of the spices named and described by Pliny in the twelfth book of the *Natural History*, and especially of pepper, the use of which had become popular in Rome after the conquest of Greece. Hence the name of *Horrea Piperataria*. These spices were shipped from the Indian ports and from the Malay isles to the Red Sea, and were landed either at Berenice or at Myoshormos. Berenice and Myoshormos were connected with the port of Coptos on the Nile by a splendid military road, built by the imperial engineers across the eastern desert about the time of Augustus. The road, 257 miles long, was abundantly provided with water-tanks at regular intervals, as well as with bungalows and military posts for the protection of the caravans against the marauders of the desert. The *quais* or wharves of Coptos on the Nile must have presented a lively and picturesque scene on the

arrival of one of these Indian caravans, when the camels were made to kneel at the water's edge, and the bales of precious merchandise were transferred from their backs to the barges moored alongside.

From the barges of the Nile the spices were transferred on board the *classis Alexandrina*, a fleet of merchantmen plying twice a year between Alexandria and Ostia, the arrival of which in sight of Cape Misenum was telegraphed to Rome by means of the semaphores or beacon-lights with which the Tyrrhenian coast was abundantly provided.

The warehouses for the safe-keeping and retail sale of the precious spices in the interest of the Crown were built, as I said, by the Emperor Domitian, on the slope of the Velia, north of the Sacra Via, on the site where now stands the Basilica of Constantine. They lasted just a century, having been wrecked and gutted in the memorable fire which destroyed the whole quarter of the Sacra Via A.D. 191, a few weeks before the death of Commodus. We are supplied with thrilling details about this fire by Herodianus and Galen, the latter of whom had his office, pharmacy, and consulting-rooms next to the warehouses, and lost by the fire several valuable MSS. which he had left inadvertently on the desk. The warehouses were never rebuilt after the fire. Their site was occupied at a later date by the Basilica of Constantine.

To conclude. Considering the happy results of the latest excavations of the Forum and of the Sacra Via, we must be grateful to the Italian Administration of Antiquities, and to our colleague Comm. Boni, for the scheme so cleverly planned and so skilfully carried into execution, not to stop any more in our search at the level of the classic buildings of the Empire, but to reach, whenever we can do it without injury, the lowest and deepest strata, contemporary or even anterior to the foundation of Rome. The problem, of course, is an exceedingly difficult one when you have many monumental superposed layers to contend with, and I do not deny that mistakes have been occasionally made in the course of this last campaign. But the system is the only exhaustive and satisfactory one; and by following it with care in the present and future investigations we shall be able, I am sure, to ascertain the true origin of Rome, and the nationality, the stage of civilisation of the original tribes which, either by sea or by land, first entered Italy, the garden of Europe, and settled on the sacred soil of Latium!

DISCUSSION OF PROFESSOR LANCIANI'S PAPER.

The President, Mr. WILLIAM EMERSON, in the Chair.

MR. F. C. PENROSE, F.R.S., Litt.D., D.C.L. [F.], said he was sure he should have the complete concurrence of the audience in asking for a vote of thanks to Professor Lanciani for his eloquent and most interesting account of the excavations in the Forum. He remembered visiting the Forum many years ago, in the time of Pope Gregory XVI., when it was in a very different archaeological condition from what it is now. It then presented quite a picturesque scene—much more so than now, because the many objects scattered about, interesting as they are, rather rob it of the picturesque; indeed, all archaeological excavation had to apologise for spoiling Nature's work. Nevertheless we are most thankful for such work, resulting as it does in the elucidation of history, and in the extreme interest of the objects turned up. With regard to

the aggregation of the soil at Rome, referred to in the Paper, that was a matter to a certain extent familiar to us here; it is well known that Roman London is buried a great many feet below the present surface. He was interested to hear that these investigations, which had brought to light the work of the time of Romulus, and even his sepulture, and other periods in the early history of Rome, were only allowed where the excavation would do no harm to the interesting buildings of the classical time. That was a principle in excavation which should never be lost sight of.

SIR L. ALMA TADEMA, R.A. [H.A.], said that he also had devoted his existence to an attempt at reviving that phase of humanity and civilisation of which we are the outcome—viz. the civilisation of great Rome. Professor Lanciani had stimulated him more in that aim than any-

body else. In all his unwearied researches, in all his books, in his letters from Rome, he seemed to take one by the hand, and in his company one called on the old magnates who lived on the Esquiline, one visited the temples, walked about in the streets of Rome, and forgot that one was living in the nineteenth century. So it was only natural that he should wish to second a vote of thanks to the man who had again given them a peep at the days of Augustus and Diocletian, and at even much earlier days, those of Romulus—for Remus was then already forgotten. One of the most lasting impressions he received when visiting Rome last spring was on seeing, under the Lapis Niger, the dark hole, lit up by tapers, in which were the bases of the lost lions, together with the remnants of that archaic pillar bearing an inscription so ancient that our present knowledge does not enable us to decipher more than one third of it. Then he seemed to see the Etruscan-clad women walk reverently past that sacred spot, with their shoes curved upwards to keep off the ground their trailing dresses, which they otherwise held in one hand. Such moments transported him back to Etruria, which belonged to the European civilisation, whence it comes that in those characters on the stone are found so many forms similar to the runic inscriptions, which are also remains of the civilisation of ancient Europe.

SIR WILLIAM RICHMOND, K.C.B., R.A. [H.A.], expressed himself as feeling powerless to make any observations on the subject, he had been so engrossed and interested with the eloquent words of the lecturer. They would all agree with him that whenever we find comradeship with the Italians we feel that we are a common brotherhood with them. That great nation, if it did not run consecutively with the great arts of Greece, took up from Greece all that was beautiful, and transmitted from Greece over Europe to our barbaric isles all that was beautiful of which we know. Englishmen were desirous of harking back to those great classic ages of purity of thought, purity of design, and purity of construction, and Professor Lanciani had stimulated them. He had written a kind of epitome of ancient history. He had pointed out to them that Romulus was not a mythical person, just as it was now being pointed out to them in Crete that Minos was not a mythical person. It had been the fashion of late years to describe as mere myths the great characters in ancient history, and to say that so-and-so never existed, but was only an idea. They were, therefore, grateful to modern scholars for their researches into these matters, and for the evidence they produced that these ancient personages were not myths, but men.

PROFESSOR AITCHISON, R.A., *Past President*, said he had not come in the expectation of being asked to speak. It had been a delight to

him to hear the interesting account Professor Lanciani had given of the excavations in the Roman Forum, which had gone so much farther than they had two or three years ago, when he was in Rome and saw the Shrine of Vesta, that was then being reconstructed. The black stone had not then been reached. The subject was too large a one for him to enter on, but what Professor Lanciani said about their being likely to find what were the origins of Roman architecture would be most valuable, for there was some mystery as to the way in which Greek architecture was transformed at Rome that had not yet been solved. It had been suggested that excavations and researches in the island of Sicily might show some of the steps by which Greek architecture had been turned into Roman. No doubt most of those present were acquainted with the Insurance Office in the Strand, which, he believed, was Professor Cockerell's first work in London, where the abacus of the Grecian Doric column was finished with a *cymatium*, which was from a supposed Greek example in Asia Minor, I think, the agora of Priene. There were innumerable questions, both æsthetic and constructive, which he hoped would be solved by some of the indefatigable archæologists. Where the Romans, for instance, learnt the use of concrete faced with bricks for their constructions, was at present unknown to him; but it was that discovery which made the Romans able to build their magnificent buildings in every part of the world. Mr. Alexander Graham some years ago found in Tunisia a large aqueduct that was made out of the soil mixed with lime and cast into blocks. It was also an interesting question when and where the Romans learnt to make the framework and eventually the skin of their vaults of brick, which M. Choisy had told them of in his *Art of Building among the Romans*. But of these various schemes that of concrete was the most valuable and the most lasting, for Professor Lanciani would tell them that, although stone buildings could be pulled down by lifting stone by stone, the walls of concrete faced with brick were obliged to be blasted.

DR. MURRAY [H.A.], of the British Museum, said he agreed most cordially in the vote of thanks which had been proposed to Signor Lanciani for his interesting lecture. It was almost like revisiting Rome to see the slides and to hear them described and discussed so ably by a scholar who himself had done so much and had had so great a share in the archæology of Rome in our generation. He should like to include in the vote of thanks for the lecture which Signor Lanciani had given them that evening an expression of what they owed to him for his own extraordinary services to archæology during the last twenty-five years. It was, of course, not in Signor Lanciani's way to speak of himself, and he had not done it; but it was for them, who were behind the scenes

in some measure, and who knew what his great services had been, to remind their English brethren that no one perhaps at the present day, no Roman at all events, had rendered such great services as Signor Lanciani to the archæology of his native city.

THE PRESIDENT said that they were all deeply indebted to Professor Lanciani for his researches in Rome. Professor Lanciani had held the post of Assistant-Director of Excavations in Rome since the year 1871, and from that time to the present all his energies had been devoted to the work. Members were well acquainted with the works in the Institute Library the result of his labours, and had studied them, he was sure, with the deepest interest. Professor Lanciani had that year been the recipient of the Queen's Gold Medal, the first time it had been awarded to an Italian since it was conferred on Signor Canina in 1849, fifty-one years ago. But it was not only from the deep interest which they all felt in the architecture and archæology of ancient Rome, and not only from Professor Lanciani's connection with that city, but also because of the amicable political relations which existed between this country and Italy, that it had been such a pleasure to them to welcome Professor Lanciani on his visit to England. It was a source of regret to them last June that he had been unable to be present in person to receive the Gold Medal, but they were glad now to have the opportunity of giving him a cordial welcome, and also a very hearty vote of thanks for the magnificent Paper with which he had just favoured them. With regard to the data given by Professor Lanciani as to the accumulation of débris in Rome accounting for the great depth at which the oldest remains of Rome lie, he had been struck when in Rome with the strings of carts coming almost continuously into Rome from the Campagna laden with earth. He had been told by a resident that that had been going on from time immemorial. If that were the case this must also be taken as accounting for the depth at which the ancient buildings stood.

PROFESSOR LANCIANI, in responding, said that there were one or two points of no little interest to the British public in connection with this question. The first was this: that while every other nation was represented in Rome by an establishment of some kind to promote archæological, historical, and artistic studies—while France had the *Ecole des Beaux-Arts* and the *Académie des Sciences*, and while Germany had two institutions, Austria one, Hungary, Spain, Russia, and the United States two each—yet England alone had never been represented there. The reason for such a state of things was not because England or English students overlooked the importance of Rome—on the contrary, they had preceded all the other nations of Europe by one hundred years at least in the appreciation of

Rome—and that appreciation had been a matter of some concern to him. He had been hunting for documents connected with Roman excavations; and on other matters connected with their Museum, and this was the eleventh time he had been obliged to come searching in England. In private houses in this country he had found things which nobody would expect to find. In one library—and by no means an important one—he had found in one room 2,927 unpublished drawings and water-colours of Roman excavations, got together by the original collector in the space of twenty or twenty-five years. Therefore, for one who like himself had devoted his whole life to the study of this subject, England was the place he had to do with more than Rome, because actually they had a far greater number and more important documents scattered over Great Britain than Rome itself possessed. It was, therefore, a matter for surprise that the people of this country had not given a substantial form to their appreciation of Rome by the establishment of a school there. This year, however, all difficulties had been overcome, and such a school was now an accomplished fact. It was beginning under extremely modest circumstances. Its aim was to provide somebody in Rome who would take care of English students. Whether they came from the Universities or as students from Art academies, they would find someone in Rome ready to help them, to smooth their way, to direct their first steps, to introduce them to the proper authorities, and to give them a shelter if they needed one. The initiative had been taken by the Oxford University, by a committee of Oxford men. The first Director had been appointed in the person of Professor Rushworth, who was keenly interested in the School, and who would be found a kindly, courteous gentleman. The School would be of the greatest advantage to students of architecture. In his many years' experience he had often known young students discouraged by their first steps in an unknown country where they had come to study. Now they would find in Rome an English house, with a countryman of their own to watch over their interests. The British Ambassador in Rome was greatly interested in the institution—indeed, they owed its foundation to him. They should send not simply archæologists alone—for archæology, though an exceedingly interesting study, was not perhaps so practical as artistic study. Other nations, and especially France, had found that there was much to be learned from architecture in Rome, and inspirations to be gathered there. The British School at Athens had been flourishing for a great many years, but though they got in Greece the foundation of artistic feeling, the foundation of whatever was beautiful and ideal and admirable, they did not get the application of these things of beauty to civic life. If they wanted to learn

how to apply the principles of Greek art in providing their cities with courthouses, with aqueducts, and even with warehouses, they would get this knowledge by studying the buildings of ancient Rome. He trusted their young men would take advantage of the opportunity now offered them. "Of one thing they may be sure," the speaker said in conclusion, "that, so far as it depends upon us, we love your country, we are prepared to devote ourselves unstintedly to the progress of the institution, and to place ourselves entirely at your disposal."

PROFESSOR AITCHISON, R.A., responding on behalf of the Meeting, said: Professor Lanciani, the President has given me permission to say a few words from us English here to-night to you and to your country, which has now taken its proper place in the comity of nations. We owe perhaps a greater debt of gratitude to Italy than to any other country in the world except ancient Greece: The Italians rescued the whole body of the classics, both Greek and Latin, carefully edited them, and sumptuously printed them. Without this passion for rescuing the MSS. without regard to cost, most of them would have perished; so this priceless boon was secured to the world—at least till the next Flood! This great work was mainly done by the Florentines; and Florence has been the modern Athens that gave us, too, one of the great poets of the world, Dante. The lost Codex of Vitruvius was found by Poggio in the monastery of St. Gall in 1414, and the *editio princeps* was printed in Rome in the same century. The Roman buildings and ruins were measured and studied by Brunellesco, and after him by Alberti, and an increasing number of students went to

Rome to study, whose sketches and measurements are found in abundance in most of the great collections; but Alberti, Serlio, Vignola, Labacco, and Palladio, at least, published books of their sketches and measurements of Roman buildings, and Palladio has preserved for us all the Roman *Thermæ* that existed in his time. These drawings of his were first discovered and published by Lord Burlington in 1780: while all the celebrated Italian architects gave a stimulus to architecture by their own works. The lessons Sculpture and Painting got from the Greek and Roman sculpture were mostly learnt before this, for Ghiberti's Gates, which Michelangelo said were worthy to be the gates of Paradise, were done before 1455. But the blessings of the Renaissance were not confined to the improvement of the fine arts. The Renaissance was the new birth of man's intellectual freedom and intelligence by sweeping away the clouds of ignorance and authority, and giving man a free scope to find out what he could about the universe he was in. Every one of the new arts and sciences that almost bewilder us from their multiplicity owes its origin to this mighty effort of the Italians, so that we owe primarily to them the electric light which illuminates this room, the railways that brought us here, the telegraph that has annihilated time for us, and all those views of the earth, its inhabitants, and of our universe that now overwhelm us. I will not detain you, Professor Lanciani, nor the company longer than to say that we hope you will take, from the Englishwomen and Englishmen here to-night, our kindest and best wishes for the happiness of your people and your country—that country that Byron said "has the fatal gift of beauty."

THE HIGHER EDUCATION OF ARCHITECTS.

By ARTHUR CATES [F.].

II. THE COLLEGE OF ARCHITECTURE, CORNELL UNIVERSITY, ITHACA, N.Y.*

THE course of instruction at Columbia University, as detailed in the *JOURNAL*, *supra*, pp. 16-19, may be accepted as expressing the most complete form of professional education yet arrived at, which could be given to ordinary students desiring to equip themselves for the practical duties of their profession, and to lay a sure foundation for the prosecution of their further studies in design and art, which their training would enable them to follow with advantage; but however satisfactory this might be in a professional view, those who had followed the course at the *Ecole des Beaux-Arts*, and had become inspired by the glorious aspirations there cultivated, desired that the study of design and art should occupy a more prominent position in the curriculum for the education of architects, and have recently succeeded in reorganising the course for many years in force at Cornell University, and incorporating therewith so much of the *Beaux-Arts* ideal as appeared suitable and possible.

The admission to the course is only to be gained by a special entrance examination, which requires a high standard of education in essential subjects, and thus enables the student who can pass so severe a test, to devote his time to the particular objects of the course, with greater power of grasping the technical subjects with which he would have to deal, and with greater advantage than if his earlier education had been less thorough.

CORNELL UNIVERSITY is a recent creation which owes its existence to the combined wisdom and bounty of the United States Congress, the State of New York, and Ezra Cornell; it was incorporated in 1865, and opened in 1868.

In 1862 an Act of Congress provided that public lands should be granted to the several States, "thirty thousand acres for each senator and representative of Congress," from the sale of which there should be established a perpetual fund, the interest on which should be appropriated to the endowment, support, and maintenance of at least one college in each State, where the leading object should be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pur-

suits and professions in life. No portion of the fund or the interest thereon could be used for the purpose of the erection or maintenance of any buildings.

At the same time Ezra Cornell* was dreaming of a project which he thus formulated: "*I would found an institution where any person can find instruction in any study,*" and by the union of his own resources with the proceeds of the land grant he saw a way to the realisation of his purpose.

This union was effected by the Act of the Legislature of the State of New York of the 27th April 1865, establishing "Cornell University," and appropriating to it the income of the sale of public lands granted by Congress to the State of New York. The founder's broad conception of a University was reconciled with the narrower purpose of the Act of Congress by providing that "such other branches of science and knowledge may be embraced in the plan of instruction and investigation pertaining to the University as the trustees may deem useful and proper."

Ezra Cornell's direct donation to the University was, with several smaller gifts, \$500,000 (£100,000), and 200 acres of land, forming—with other lands, 270 acres in all—the estate of the University at Ithaca, N.Y., of which about 70 acres are occupied by the buildings of the University, arranged in stately open order. His largest contribution was, however, in the shape of profits eventually made by the University, under his management, on the land scrip which he purchased from the State. These profits and his contribution, constituting the "Cornell Endowment Fund," now amount to about \$4,000,000 (£800,000), while the proceeds of the lands sold by the State, \$688,576 (£137,715), form the "College Land Scrip Fund," which latter fund is subject to the restriction of the Act of Congress, from which the former is free.

The University has largely benefited by liberal donations and endowments, among which the benefactions of Alfred S. Barnes, the Sage, McGraw, Fiske, White, and other families, and individuals have been considerable, while between 1870 and 1887 Hiram Sibley gave \$180,000 (£36,000) towards the foundation and equipment of the "Sibley College of Mechanical Engineering

* ITHACA is a flourishing city, one of the most beautiful in New York State, situate about 180 miles north-west of New York City, at the south end of Cayuga Lake, surrounded by most charming and picturesque scenery.

* EZRA CORNELL, a native of New York, born 1807, died 1874, was an electrical engineer, who devoted his life to the study and improvement of the magnetic telegraph, and thereby amassed a considerable fortune.

and the Mechanic Arts," to which Hiram W. Sibley added \$50,000 (£10,000). H. W. Sage gave £50,000 for the establishment of the Sage College, an institution for women, connected with the University, in the teaching given by which its members should have equal rights with men. The Medical College was founded by the Trustees on receipt of a gift ample for the establishment and maintenance of a medical department of the University, while the Legislature of the State of New York established the Veterinary College and the College of Forestry as State institutions, administered by the Trustees of the University, and gives liberal grants in aid of the College of Agriculture.

The University comprises ten faculties—viz. the University Faculty (the graduate department); nine teaching faculties, viz., Arts and Sciences (the academic department, of very wide range of study), Law, Civil Engineering, Mechanical Engineering, Architecture, Agriculture, Veterinary Medicine, Forestry, and the Medical Faculty, these controlling nine separate departments or colleges, together constituting the University.

The departments attached to these faculties are fully staffed, and together enjoy the services of 126 professors and lecturers, 199 instructors and assistants, 45 special lecturers, 15 librarians and assistants (the library contains over 225,000 volumes*), with 24 other officers and assistants, in all a staff of 409 officers for instruction and administration, not including 28 University preachers.

Candidates for admission must be at the least sixteen years of age, and pass an entrance examination in (1) *English*, on books specially selected, from which the candidate is expected to learn to express himself readily and easily in accordance with the usages of ordinary prose composition; to master systematically the contents of certain books; to cultivate the habits of correct grammar and spelling, and of correct sentence structure, punctuation, and paragraphing. (2) *Physiology and Hygiene*, the human body, health notes, emergencies. (3) *History*, on two of the following: (a) the history of Greece to the death of Alexander, with due reference to Greek life, literature, and art; (b) the history of Rome to the accession of Commodus, with due reference to literature and government; (c) English history, with due reference to social and political development; (d) American history, with the elements of civil government. Geographical knowledge is tested by requiring the location of places and movements on an outline map. (4) *Plane Geo-*

metry, with numerical problems and questions on the metric system. (5) *Elementary Algebra*, including the binomial theorem, quadratic equations, ratio and proportion.

In addition to this Primary Entrance Examination there is required for admission to the course leading to the degree of Bachelor of Architecture, an Advanced Examination in—1. *Advanced Mathematics*, including *Solid Geometry*: the properties of straight lines and planes, of projections, of polyhedrons, of the regular solids, of spherical triangles, and the measurement of surfaces and solids; *Advanced Algebra*: Proportion, the theory of powers and roots, the theory of quadratic equations, the theory and use of logarithms; permutations, combinations, and probabilities, &c. &c.; *Plane and Spherical Trigonometry*: the definition and relation of the six principal trigonometric functions, the properties of right and oblique plane triangles, the use of trigonometric tables, the application of trigonometry to surveying, &c. 2. *Advanced French*: (a) the translation at sight of standard French into clear and idiomatic English, to be acquired by reading not less than 600 pages of prose and verse from writings of at least four standard authors, of which a considerable portion should be translated into idiomatic English; (b) the translation into French of a connected passage of English prose, showing a thorough knowledge of accidence, and familiarity with the essentials of French syntax, the uses of tenses, moods, prepositions, and conjunctions; an examination in pronunciation and the writing of French from dictation is included; or *Advanced German*: (a) advanced grammar, tested by the translation into German of easily connected English prose; (b) translation at sight of ordinary German, facility in which may be acquired by reading at least 500 pages of classical and contemporary prose and poetry, one-half of which should be selected from the works of Lessing, Schiller, and Goethe.

The applicant must also present a Regent's diploma or a certificate of graduation from an approved school. The combinations recommended as most suitable for entrance to this course are physics, chemistry, geology, freehand drawing, and the alternative modern language.

For many years the patient and untiring efforts of Professor Babcock were devoted to the organisation of the teaching of this college on principles expressed by him in the admirable paper on "A Course of Instruction in Architecture," which he contributed to the meeting on "Education" held on the 4th May 1887* at the General Conference of Architects, a paper which greatly assisted the object of the meeting—the establishment of the present system of progressive examinations of the R.I.B.A.—and for which and for his courtesy in

* In 1888 Mr. H. W. Sage gave half a million dollars (£100,000) to the University, \$200,000 (£40,000) to be devoted to the erection of a Library building, and \$300,000 (£60,000) to be a permanent endowment, the income of which should for ever be devoted to the purchase of books.

* Fully reported in *The Builder*, 7th May 1887.

having hastened his departure from New York some days, in order to be present at the meeting, the Institute is under great obligation to him.

Professor Babcock's views may be expressed in a few words: "The object of a course in architecture should be not chiefly to develop the artistic powers of the student, but to lay that foundation of knowledge without which there can be no true art. Before an architect can become a true artist he must be master of the art of building, and also a man of science"—and on this basis the curriculum he adopted was founded. On his retirement from active duties as professor, the influence of the teaching of the Ecole des Beaux-Arts became paramount, and a reorganisation of the college followed, in which a large proportion of time is devoted to architectural design pure and simple.

1. INSTRUCTION.

The present course, under Professor ALEXANDER BUEL TROWBRIDGE, is conducted by a staff of five instructors, consisting of a professor, two assistant professors (one of whom is "Architecte Diplômé par le Gouvernement de France"), an assistant professor of drawing and modelling, and an instructor in architectural drawing. The aid of specialists of the College of Civil Engineers in the subjects of descriptive geometry, mechanics, structural details, theory of the arch and stereotomy, heating and ventilating; and of the College of Forestry in timber physics and wood technology, is also obtained.

The leading principle which governs the course is, that a good course of architecture may be divided into four main parts: (a) *Construction*, both theoretical and practical; (b) *Expression*, or the technical representation of architectural and decorative ideas on paper; (c) *Composition*, which includes the science of convenient and effective planning, and the art of architectural and decorative design; (d) *History and Literature*, the broad field which the literature of architecture covers, including the history of architecture and the many interesting and important questions which arise in connection with the practice of architecture, and which often belong to allied professions.

This division is carried out in practice as follows in detail, viz. :—

a. *CONSTRUCTION AND PRACTICE*.—Under this head are grouped all of those courses bearing on the purely practical work of the profession, as distinguished from the æsthetic. The aim is to give the student a thorough grounding in the principles underlying sound construction, sanitation, and the best practice in the installation of all modern conveniences. After the pure mathematics the technical work begins with a course in mechanics of materials, in which the theory of mechanics is taught and the strength of materials discussed. This is followed by the work in struc-

tural detail, which makes direct application in a special way of the principles taught in the preceding course.

The ordinary problems relating to materials and construction are considered in the masonry construction and working drawings sections, in which the work of the various trades is taken up, and materials, methods, and workmanship thoroughly discussed, ending with a careful and systematic study of specifications. Heating and ventilation are studied in a separate course, under a specialist; while plumbing and sanitary engineering of buildings and the discussion of building contracts are subjects for special work in the seminaries.

The drawing in connection with this section is made to conform as closely as possible to the work done in the preparation of working drawings in an office, with the advantage that it can be arranged in a consecutive and progressive order. In conjunction with the lectures on the planning of domestic buildings the student makes sketch plans and designs for a series of buildings ranging from the simple labourer's cottage to the more elaborate mansions built without the hamper of a cost limit. Following this special drill in planning in design he is required to design a building of moderate cost—usually a dwelling-house—under such limiting conditions as might be imposed by a client, to prepare the complete scale working drawings, and to make typical full-size details for its construction.

Throughout all of his work the student is required to construct scientifically rather than by "rule of thumb." In the senior year he is prepared to take up the course in advanced construction, which is devoted to the consideration of steel and fireproof construction, and consists of a series of fully illustrated lectures and the working out of steel framing plans, foundations for heavy buildings, and the details of steel columns, girders, and trusses.

b. *EXPRESSION*.—This includes freehand drawing, drawing from the antique and from life, modelling, sketching from nature, elements of architecture, shades, shadows, and perspective. The aim of this work is to train the eye to a sense of form and colour, the hand to steadiness, and the judgment to a nice distinction between values. In all of this work the attitude of the architectural student is precisely that of the sincere art student. False, exaggerated effects for the sake of attracting attention are discountenanced, but vigorous, effective presentations of architectural ideals, in harmonious tones inspired from nature, are heartily encouraged.

c. *COMPOSITION*.—This subject is taught by means of a succession of problems throughout the second, third, and fourth years. Programmes of competition are issued on prearranged dates, and each student is required to hand in a set of drawings showing his own interpretation of the

problem as governed by the conditions. These drawings are judged by a jury composed of the entire Faculty of Architecture, the acceptable drawings being graded; Mention, First Mention, Second Medal, and First Medal according to the excellence of solutions. In the judgment each member of the Faculty pays particular attention to that part of the work which is the result of his special teaching; thus the Professor of Construction studies the constructability, while the Professor of Freehand Drawing criticises the sculptural details and the general colour schemes of the designs; so that not only do the drawings receive careful criticism, but the Professors are able to follow the results of their teaching, while all in the Faculty maintain a lively interest in the progress of architectural design, which is conceded to be the chief aim of architectural schools. In order to avoid the danger of becoming too theoretical the course in Working Drawings described under (a) CONSTRUCTION is introduced after the students have spent their second (Sophomore) year in design. Experience has shown that this work has a wholesome influence upon the students, rendering more practical and sensible their work in the latter part of the course.

d. HISTORY OF ARCHITECTURE, &c.—Ancient Greece, in her philosophy, her literature, and her art, has affected to an incalculable degree the civilisation of modern times. The architectural influence percolating through Rome and the Renaissance has brought down to the present day traditions and architectural motives which serve admirably as sources of inspiration. Imitation, however, of decorative forms which served to describe the kind of civilisation which existed in ancient times is hardly more justifiable than would be the use to-day of Egyptian hieroglyphics on wall decorations in our buildings; they belong to the past, and should be considered as possessing only historical and archaeological interest. The broad principles, however, of proportion and scale, and the subtleties of line and silhouette, are matters which will always deeply concern the student of architecture, and should be carefully studied in the monuments of all ages; the reserve of the Greeks contrasted with the wonderful daring of the Gothic builders presents an illustration of the qualities which are needed in our own building architects.

The study of the History of Architecture is regarded in this course as a source of inspiration, rather than as a means of acquiring materials and motives, for use after leaving the University. While it is true that the work in design shows throughout the three years a good deal of absolute imitation of historic forms, this wholesale adaptation is encouraged in the belief, that the students will recognise in this way the true relation of historic motives to modern work; in other words, it is believed that the students will see that historic

motives are useful and necessary as helps in the study of the broad principles of composition, but that they should be only considered necessary during student days. The subject is taught through lectures illustrated by models, photographs, and lantern slides.

The subjects cared for by the Seminary, such as legal questions, professional practice, special engineering problems, &c., are practically only touched upon; with all the work which belongs to the technical training of an architect it would be unwise to use the time necessary for a more exhaustive treatment of these allied subjects. The students become familiar with the breadth of field in these directions, and are advised to employ experts for the solution of all problems which do not come properly within the scope of an architect's practice.

Eminent specialists are invited each year to talk before the students on subjects allied to architecture, but which cannot be specially taught in a College of Architecture: Stained Glass, Mosaics, Furniture, Mural Painting, &c., are some of the topics that come under this head.

2. EQUIPMENT.

The material equipment is especially complete along those particular lines wherein the student needs most help and guidance. The Special Library is one of the best working libraries of its kind in the country; it comprises nearly all works of any note that have been published during the last century on the subject of architecture or architectural construction; a vast number of photographs and plates mounted and arranged for ready reference; and the bound volumes and current numbers of the leading architectural periodicals, both foreign and American.

The Library is not only most complete, but above all it is accessible at all times, and the students have free and unhampered access to books, plates, and photographs, and are encouraged and urged to use the best of the material for direct reference in the drawing rooms.

Next to the Library in direct helpfulness to the students in design is the constantly increasing collection of drawings made by advanced students and graduates of the Ecole des Beaux-Arts. Apart from questions of style these are among the best architectural drawings ever made, and their value as examples of drawing, rendering, and expression can hardly be over-estimated. A collection of plaster casts, both large and small, furnishes subjects for freehand drawing in pencil and charcoal, and choice subjects of pottery, faience, &c., for water-colour work.

There is also the large and valuable collection of wood, stone, and plaster models, illustrating the historical development of architectural forms and construction, brought together by many years' efforts by Professor Babcock.

Further, for the work in construction there is a fine collection of working drawings of well known modern buildings, which is being constantly added to by contributions from the offices of many of the leading architects in all parts of the country; and as large a collection of samples of building materials as can be handled within the limits of space available. For lecture work and illustration there is an electric lantern and a collection of several thousand lantern slides, revised and enlarged each year.

8. FELLOWSHIPS.

Two Fellowships have been established—a Travelling Fellowship of \$2,000 (£400), awarded in alternate years to the winner of an architectural competition, under thirty years of age and a graduate of the College; and a Resident Fellowship of the annual value of \$500 (£100), open to all graduates of schools of architecture of approved standing in the world.

COURSE OF INSTRUCTION:

LEADING TO THE DEGREE OF BACHELOR OF ARCHITECTURE.

First or Freshman Year.

History of Architecture: First half-year: Egyptian, Greek, and Roman Architecture. Second half-year: Romanesque, Byzantine, and Gothic Architecture.

Elements of Architecture: The Classic Orders of Architecture drawn and rendered in Indian ink and in colour.

Freehand Drawing: Drawing from the cast.

Shades, Shadows, and Perspective: Lectures and six hours of drawing per week in the second half-year.

Mathematics: Analytic geometry; differential calculus; integral calculus.

Descriptive Geometry: A study of the representation of lines, planes, surfaces, and solids, their intersection and developments.

Military Drill and Gymnasium: Military drill is required of all Freshmen and Sophomores.*

Hygiene and Physical Culture: A general course of lectures is given to all Freshmen.

Second or Sophomore Year.

History of Architecture: Renaissance Architecture (first half-year).

Design: Periodical problems to occupy twenty-four hours per week throughout the year.

Drawing from the Antique: Charcoal and pastel work in the Museum of Casts.

Composition: In the second half-year.

* Instruction in military science and tactics is provided—as required pursuant to the Acts of Congress creating the land grant, and of the Legislature of the State of New York assigning it—for the foundation of Cornell University.

Mechanics: Resistance and elasticity of materials.

Masonry Construction: Lectures supplemented by drawings and by inspection of actual work (first half-year).

Clay Products and Building Stones: A practical course for the study of bricks, tiles, terracotta, cements, and building stones, with reference to composition, colour, methods of production, strength, durability, weathering, &c.

Military Drill and Gymnasium: As in First Year.

Third or Junior Year.

History of Art: The development of art in general relation to architecture.

Design: Periodical problems to occupy thirty-six hours per week during the second half-year.

Modelling: Clay modelling from busts, architectural ornaments, animals' heads, &c. (second half-year).

Seminary: Reviews of current technical journals, Papers and discussions upon subjects of professional interest not covered by other courses.

Planning of Domestic Buildings: A systematic and analytical study of house planning, with special reference to American conditions.

Construction and Specifications; Working Drawings: Continuing the work of the preceding by the study of specifications, working drawings, and full-size details of a house designed by the student as for a client.

Structural Details: The design and construction of beams, columns, trusses, and the determination of safe unit stresses (first half-year).

Steel Construction and Fireproofing: This includes the study of special foundations, steel construction, and fireproofing of high and heavy buildings, as also its application to cheaper domestic buildings (first half-year).

Timber Physics: The study of timber, its physical structure, diseases, characteristics of the different kinds of wood, methods of treatment, &c. (first half-year.)

Heating and Ventilating: Lectures supplemented by practical problems (first half-year).

Water-Colour Painting: From still life groups and from nature (second half-year).

Fourth or Senior Year.

Modern Architecture: Lectures in second half-year.

Design: Periodical problems to occupy about thirty-six hours per week throughout the college year.

Theory of the Arch and Stereotomy: Including stability of arch and foundations, architectural features, bill of materials and cost (first half-year).

Life Class : Drawing from the nude model in evenings.

Seminary : Papers on office methods, contracts, competitions, &c. (second half-year).

Principles of Decorative Design : Lectures and six hours of drawing per week throughout the year.

The annual fee for tuition is \$125 (£25), covering the whole course.

There is also a special Two Years' Course in Architecture, suitable for those who do not require to take a degree, or for draughtsmen and others who have had at least three years' experience in an office. This course is :—

FIRST YEAR : Design, history of architecture, freehand drawing, descriptive geometry, shades and shadows, perspective, modelling.

SECOND YEAR : Working drawings, design, history of architecture, drawing from the antique, masonry construction, sketching from nature.

The degree of MASTER OF SCIENCE IN ARCHITECTURE is conferred on those who have taken the corresponding baccalaureat degree in the University, or at some other College or University of equal requirements, in case the candidate has spent at least one year at this University, pursuing an accepted course of study, upon his presenting a satisfactory thesis and passing the required special final examinations.

The Register of Students shows that the present number attending the full Course is forty-one. Of these seven are ladies, of whom Helen D. Binkerd, in her third year, took the First Mention for a design in colour for the decoration of the end of a state reception room—no mere sketch, but a most carefully elaborated design drawn to the scale of one inch to the foot.

The College publishes a record of work and progress in design in the *Annual of the College of Architecture, Cornell University*.* The *Annual* for 1898-99 contains eighteen plates of designs for various subjects made by students, and in the Introduction the aim and expectation of the authorities, that the art teaching of the College should not be limited to architecture, is expressed in the hope that the day may not be far distant when the college may be expanded into a College of Fine Arts, with the broadest possible curriculum and the highest possible aims.

* This annual, and the *Year Book of the School of Architecture, University of Pennsylvania*, are in the Institute Library, and are worthy of consideration by those who may desire to know the progress being made in the study of design, and to appreciate the powerful influence of the methods and principles of the Ecole des Beaux-Arts therein displayed. The illustrated Catalogues of the exhibitions of the T-square Club of Philadelphia and the Saint Louis Architectural Club are in like manner also deserving of notice.

THE LATE WILLIAM YOUNG [F].

IT is with deep regret that we have to record the death, on the 1st November, of Mr. William Young, the architect of the New War Office. A sudden chill, a few days' illness, developing into pneumonia, and all was over. Our profession has lost one of its hardest and most enthusiastic workers, at the moment too when the greatest opportunity of his life was within his grasp. Mr. Young was, in the highest sense of the word, a self-made man. By his own untiring energy and capacity for work he won for himself a foremost place among the leading architects of the day. Born in Paisley about fifty-seven years ago, he began his professional career in the office of a Paisley architect, the late Mr. James Lamb. After his pupilage he entered the office of Mr. Tait, in Glasgow, a city which was afterwards to be the *locale* of one of his most famous works. In the early sixties he came to London to the office of Mr. C. H. Howell, then surveyor for the county of Surrey. Here, during four years, he gained much experience that stood him in good stead in after life. Besides his office work he studied much at the South Kensington Museum, in its courts and art library, and also

at the British Museum, storing his mind with a knowledge of his art, till, with an ambition typical of his after success, and while still very young, he began business for himself in an office in Exeter Hall.

Like most young beginners' he was not at first overburdened with commissions, so to keep head and hand in practice he produced his first book, *Picturesque Studies of Old English Churches*. Just then the Gothic Revival was in full swing. Mr. Young had been brought up under its influence. Little wonder, then, that his next book, published shortly after the first, *Architectural Studies : a Work of Original Designs*, should be permeated with Mediævalism. In after life he used to joke about these efforts in architectural literature, but incidentally they brought him his first commissions, and one lifelong friend, the Earl of Wemyss, then Lord Elcho. His Lordship was on the Council of the National Rifle Association, and secured the services of Mr. Young to design and carry out the refreshment pavilion at Wimbledon Camp—a huge structure of timber, covering an area of some 50,000 square feet, with a bar 200 feet long, and dining-rooms capable of accom-

modating upwards of 1,000 persons. So smartly and so satisfactorily was this work carried out that it became the foundation of its designer's fortune. Lord Elcho introduced him to his brother-in-law Mr. Wells, M.P., and to Mr. Eley, for both of whom he built large country-houses. Holmwood, in Hants, the residence of Mr. Wells, Haseley Manor, Warwick, Oxey Grange, Mr. Eley's house, and others about that time are

all of a late Domestic Gothic type. The influence of Gothic was still upon him, but Mr. Young was quick to see and acknowledge its limitations, and with characteristic energy gave himself up to the study of Classical work, with the result we see in Chelsea House, the town mansion of Earl Cadogan, one of the largest in the West End, with a very fine interior, more especially the staircase. Like Lord Wemyss, Earl Cadogan became a friend as well as a client, and consulted Mr. Young in the important work of laying out the Cadogan estate in Chelsea, where he also designed four or five mansions in Cadogan Square. From this time onward his hands were always full of work, principally large country houses for members of the nobility. Not to take

them in chronological order we may mention Chevening Hall, Kent, for Earl Stanhope; a mansion in Mayfair for Lord Sudeley; another for the Earl of Albemarle in Cadogan Square; Easton Lodge, for Lord Brooke; Sefton Lodge, Newmarket, for the Duchess of Montrose; Duncombe Park (after the fire), for the Earl of Faversham; Staircase Hall at Panshanger, for Earl Cowper; others again for Lord Bury, Sir Henry Palley, and Col. Farquharson. Then in later years he again built for Lord Wemyss and Earl Cadogan; for the former he completed Gosford House, near Had-

dington, a most important commission. The original mansion was built by the brothers Adam in the first years of the century. It was never finished till Mr. Young took it in hand. Leaving the Adams' building as the centre of the composition, he added two extensive wings in harmony with the original design. One of them contains a magnificent marble staircase hall. At the same time the whole arrangements of the house were remodelled, terraces and steps constructed around

it, till Gosford became one of the most sumptuous mansions in the country.

For Earl Cadogan he was building Culford Hall, in Suffolk—another fine work which is not quite completed yet. In recent years he has been building largely for Lord Iveagh, first a splendid new ball-room and other additions to his Lordship's house in St. Stephen's Green, Dublin, then alterations to Farmleigh, in the outskirts of Dublin, and lastly at Elveden Hall, in Suffolk, formerly the residence of the Maharajah Dhuleep Singh. Here the work is on the most extensive scale. Fine stables have been built, and cottages and lodges throughout the estate, while the hall itself, now being reconstructed and enlarged in the most palatial manner, is not nearly completed.

Most of these works are distinguished by

the grandeur of the scale on which they are carried out, by stately halls and staircases such as at Gosford, Duncombe Park, and St. Stephen's Green, and by the general excellence of their internal arrangements. Over the latter Mr. Young was specially particular. Probably no man knew better than he did the many requirements of a great country house, or how more effectively to carry them out. To this must be attributed much of his success in this interesting department of architectural practice.

It is said sometimes that an architect's work runs in grooves. Be that as it may, Mr. Young did

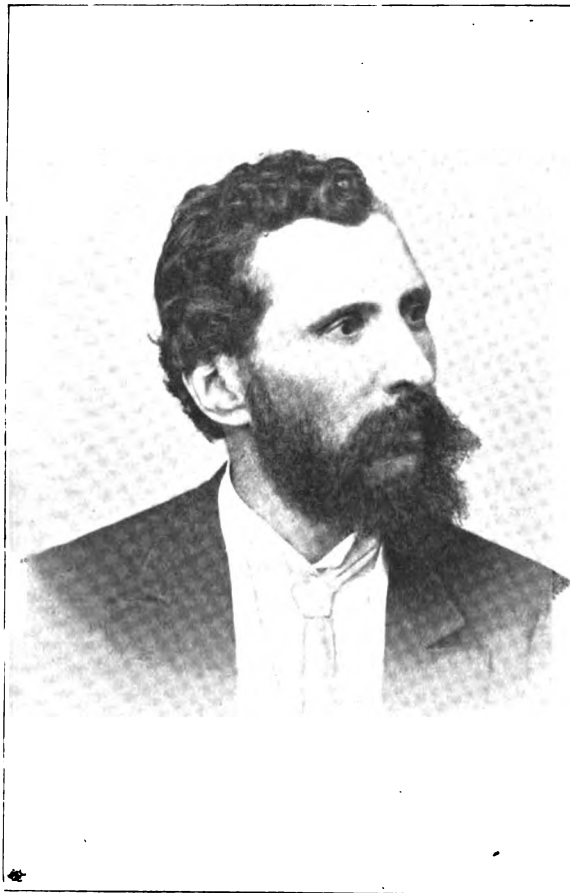


Photo. by Danculain, Strand.

THE LATE WILLIAM YOUNG.

but little ecclesiastically. He restored and made additions to Aberlady Church, N.B.; and built one at Halton, Warwick; but his chief effort in this connection is the new parish church at Peebles, a work in which he endeavoured to incorporate some of the characteristic features of Scottish Gothic, such as in the window tracery, the crow-stepped gables, and notably in the tower, which is covered by an open crown, much after the manner of the well known examples at Edinburgh and Aberdeen.

One can easily understand that with such a *clientèle* as Mr. Young secured he had little inclination and less need to enter the lists of competition, and yet to competition he owed the greatest executed work of his life. A few years before the competition for the Glasgow Municipal Buildings took place he had spent a considerable time in Italy, studying the masterpieces of Rome, Florence, and Venice, and perfecting his knowledge of Classical architecture. The Glasgow opportunity proved too tempting to be resisted, and he threw himself into the contest with all his energy and enthusiasm, stimulated by his recent visit to Italy. The result is well known: after a first and abortive competition a second was instituted, a double contest of sketches, and then of ten competitors selected to send in matured drawings.

Two stories characteristic of the man may be recalled in this connection. When the mottoes of the selected ten were published they were in alphabetical order, and Mr. Young's, being "Viola," was at the end of the list. "The last shall be first," he exclaimed, and set to work on the final plans with renewed energy and hope. A few days before the decision was made known Lord Wemyss, in the course of a friendly chat, jocularly asked him whether he would take £1,000 for his chance. "No," was the reply. "Well, then, £5,000?" queried his Lordship. "No," was the reply again. "£10,000 then?" "No, no," said Young; "I would rather carry out the job;" and carry it out he did. With the possible exception of Manchester's Gothic Palace, it is the largest and most imposing group of municipal buildings in the kingdom. The cost was something like £500,000, and it is to the honour of the Glasgow Corporation that such a sum was willingly voted to ensure the work being completed with a grandeur and dignity befitting the importance of their great city. The foundation stone was laid on the 6th October 1883; for six years the work went on, and in October 1889 the Corporation took possession of their new and magnificent home. The internal arrangements are, again, a marvel of planning, the multifarious requirements of business offices and state apartments being fulfilled in the most complete manner, while the halls and staircases and corridors are sumptuous features in the general

scheme. The building, of course, has been much criticised—it is too important to escape that—and it may be urged with some reason that the north and south sides, more especially the north, are finer and more dignified than the west or principal front; or again, that the lavish use of marble in the great staircase has been overdone; but when all has been said it remains an honourable monument to its distinguished architect and a civic palace of which Glasgow may well be proud.

There can be little doubt also that the success of this great building was no small factor in securing his appointment for the still greater work—the New War Office in Whitehall. Here, if the guerdon of success promised to be high, the responsibilities were even higher still. He had to contend with a very awkwardly shaped site, every available foot of which was required for the accommodation of this great public department. For over two years past he had devoted himself to the working out of his scheme; the foundations are nearly completed, the working plans and many details for the superstructure are finished, and the quantities are now being taken out. The published design has been much improved upon both in plan and elevation, resulting in a building of great dignity and breadth of treatment, fully justifying his selection by the Government. Probably some other architect may now have to be associated with the work, but if so it is to be hoped it will be carried out as far as possible exactly as its author has left it—a monument to his memory. How ardently he looked forward to its completion can only be measured by the greatness of the opportunity, now, alas! passed away with him for ever.

Mr. Young became a Fellow of the Institute in 1891, and, besides reading papers on several subjects, served for some years on the Art Standing Committee. It was during his time that the discussions and correspondence with the London County Council regarding the new Vauxhall Bridge and the Strand Improvement Scheme were going forward; to both subjects he contributed much sound advice, and it may not be generally known that to his suggestion we owe the crescent road so much in evidence lately in the Strand scheme. When the original plan of the new road, from Holborn to the Strand came before the Art Committee the branch roads from its southern end to the south-west and south-east respectively were laid out in straight lines. Mr. Young suggested they should be formed into a great crescent; the plan was accordingly altered, sent back to the County Council, and ultimately adopted. He looked forward with much interest to seeing what the selected architects would do with such a splendid opportunity, but the very week the designs were on view he died.

Mr. Young was a man of many parts, with

views on many subjects, professional and otherwise, a fluent writer and an engaging conversationalist. Besides the books already mentioned he published one on *Town and Country Residences* and a splendidly illustrated monograph on *The Glasgow Municipal Buildings*. For many years he edited the *Architect's Pocket Book* for Messrs. Spon, and quite lately he edited for the same firm a fine folio reproduction of Piranesi's

great work on *Italian Architecture, Painting, and Sculpture*, originally published in Rome in 1758.

Mr. Young leaves a widow and one son, Mr. Clyde Young, who served his articles with his father, and has been in the office ever since. Personally he was of a genial disposition, a true friend, always ready to lend a helping hand, and liberal almost to a fault.

J. M. BRYDON.



9, CONDUIT STREET, LONDON, W., 24th Nov. 1900.

CHRONICLE.

The Library: a recent Donation.

The munificence of the Architectural Union Company (of which Mr. Arthur Cates is Chairman) in placing £30 at the disposal of the Institute for the purchase of books has just enriched the Library with the following important works:—

Les Grands Prix de Rome d'Architecture de 1850 à 1900.

Epidaure. Restauration des Principaux Monuments du Sanctuaire d'Asclépios, by Defrasse and Lechat.

La Renaissance en France, by Palustre.

Die Baukunst Spaniens, by Max Junghändel.

The first of these differs from its companions in being not a record of accomplished work, but a series of designs which year by year have gained the blue ribbon of the French National School of Architecture. There is a distinction attaching to the Grand Prix de Rome greater than that of any other art students' prize in the world, and many of those who have gained it have become the foremost of French architects. We therefore naturally expect to find that many of the designs are excellent, and we are not disappointed. But the value of the collection by no means lies in their individual excellence. They must not be regarded as so many separate designs without cohesion amongst themselves. Their relation to each other is very intimate, for they are the chosen blossoms put forth yearly by the French system of training in architecture, and we feel that here at least we

have a living art, self-contained, self-reliant and progressive, practically uninfluenced by the art of other nations, yet influencing the art of most other nations in the highest degree.

After looking through such a mass of ambitious design, to take up the work on *Epidaure* is to enjoy a well-earned rest. Here we have space and leisure and Attic simplicity. The legends surrounding the name of Æsculapius claim our attention as well as descriptions of the ruins. Splendid plates accompany the text, showing both ruins and restorations of the temples of Æsculapius and Artemis, the Tholos, the Propylæa and the Theatre, with details of the Orders employed, and many good illustrations of the statues and fragments of sculpture. There is no hurry, no crowding; everything has its proper recognition and space. It is indeed a beautiful book.

No one should miss looking through the delightful volumes of Palustre. They treat chiefly of transitional and early work, with a leaning towards the picturesque. There are but few plans, exterior views forming the staple of the illustrations. Chimney-pieces, vases, fountains and window glass are noticed, and the ever-welcome sculpture of Jean Goujon has its place. The work is divided into provinces, and gives the student intending to travel in any particular district valuable information as to the buildings in this style to be found within it. To the traveller it will bring many interesting reminiscences, but few, very few, will find that they have seen everything here delineated.

Die Baukunst Spaniens forms as it were the heavy artillery and infantry supports to Mr. Andrew Prentice's brilliant cavalry reconnaissance in Spain. It consists of large photographic plates of all the more important Spanish work from earliest times to late Renaissance, with some detail in colour from the Alhambra. The whole is divided into six styles, and each plate bears the title of its style—an excellent arrangement. It is produced with German thoroughness and appreciation of the rigidity of facts and the fascination of theory, rather than the poetry of feeling. However, here is represented Spanish architecture, realistic as lens can make it, and lacking only in that grace which light and atmosphere

lend to the actual buildings, and which an artist sometimes catches.

This completes the list of books. They form a gift of which donors and recipients alike may feel proud.

J. HUMPHREYS JONES.

The Church Crafts League.

The Church Crafts League, which held its first annual meeting last Tuesday, was formed for the purpose of bringing the clergy, and others responsible for the construction and decoration of churches, into direct relation with artists and craftsmen engaged upon work of the kind. By this means the League hopes to restore individual character to art in churches, and to remedy the evil results of commercialism in the matter. The Archbishop of York, the Bishop of Bristol, the Bishop of Stepney, and G. F. Watts, R.A., are Patrons; the President is the Bishop of Rochester; and the Committee of Direction includes Lord Balcarras, M.P., Mrs. Russell Barrington, Rev. Charles Biggs, Canon Rhodes Bristow, Rev. Percy Dearmer, Conrad Dressler, T. Dyer Edwardes, J.P., Alexander Fisher, Miss Emily Ford, Canon Charles Gore, Hon. Mabel de Grey, Henry Holiday, Canon Scott Holland, W. Goscombe John, A.R.A., T. Stirling Lee, Miss Lowndes, J. Phillips, Sir W. B. Richmond, R.A., Canon Armitage Robinson, Byam Shaw, C. O. Skilbeck, A. G. Walker. Clergy, churchwardens, or donors who desire guidance in regard to architecture, painting, sculpture, wood-work, metal-work, glass, embroidery, or any form of decorative work, may address applications to the Secretary of the League, at the Church House, Westminster, S.W. The Secretary furnishes the list of artist members of the League who work in the particular craft specified, with a statement of places where examples of their work may be found. If further guidance is needed, an explicit statement of the case must be given, and the Committee deals with it at its next monthly meeting. The membership numbers 164, of whom 48 are artist members. The annual subscription is 5s.

The Glasgow Institute of Architects.

Since the current KALENDAR went to press, the office-bearers of the Glasgow Institute have been appointed for the new Session as follows:—*President*: Mr. John Jas. Burnet; *Vice-President*: Mr. Alex. Petrie; *Auditor*: Mr. W. Forrest Salmon; *Secretary and Treasurer*: Mr. C. J. MacLean, Writer; *Council*: Messrs. Alex. Petrie, J. J. Burnet, J. A. Morris, David Barclay, W. Forrest Salmon, A. N. Paterson, John Keppie, H. K. Bromhead, Jas. Lindsay, Miles S. Gibson,

N. Macwhannell, D. McNaughtan, Campbell Douglas, T. L. Watson, Thos. Baird, jun., J. M. Monro, Alex. McGibbon.

MINUTES. II.

At the Second General Meeting (Ordinary) of the Session 1900-1901, held Monday, 12th November 1900, at 8 p.m., Mr. William Emerson, *President*, in the Chair, with 46 Fellows (including 18 members of the Council), 48 Associates (including 2 members of the Council), 6 Hon. Associates, 1 Hon. Corresponding Member, and numerous visitors, the Minutes of the Meeting held Monday, 5th November [p. 24], were taken as read and signed as correct.

A Paper by Professor Lanciani, D.C.L. Oxon. [*Hon. Corr. M., Rome*], entitled ARCHITECTURAL RESULTS OF THE LATEST EXCAVATIONS IN THE FORUM, having been read by the author, and illustrated by a series of photographic views shown by the lantern, a vote of thanks for the Paper and illustrations was passed to Professor Lanciani by acclamation.

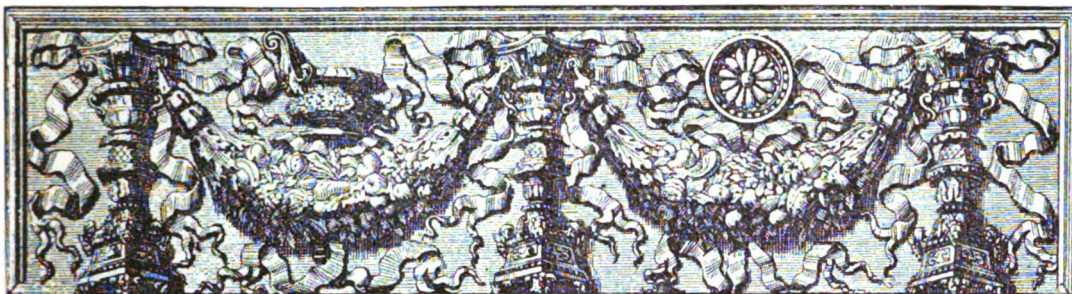
Professor Lanciani, in reply, having referred to the advantages to be derived by architectural students from the recently established British School at Rome, and given assurances of the desire of his countrymen to aid the progress of the School, Professor Aitchison, R.A., responded on behalf of the Meeting.

The proceedings then closed, and the Meeting separated at 10 p.m.

LEGAL.

Building used partly for Trade and partly as a Dwelling.

At the Southwark Police Court, on the 17th and 24th October, Mr. Kennedy heard a case arising out of an objection by the district surveyor to the mode of construction of the Horseshoe beerhouse in the Old Kent Road. The ground of objection was that the plans did not provide for the separation of the living-rooms from the trading portion of the premises by fireproof materials. —Mr. Percy Gates appeared for the builder, and Mr. Horace Avory for the County Council. —The case raised a question under the London Building Act, which had already been decided against the Council with regard to a fully licensed house, but which was now raised for the first time in regard to a beer and wine house. Mr. Avory stated that in the opinion of the Council licensed premises ought to be brought under the same regulations with regard to fireproof construction as were required in regard to shops and factories which were used partly for trade and partly for residential purposes. The Council desired to have an opportunity of getting the decision in *Carritt v. Godson* [JOURNAL, Vol. VI. 1899, p. 460] reviewed by the Court of Appeal, and were prepared to carry the question, if necessary, to the House of Lords. He also submitted that there was a stronger case for separation in regard to a beerhouse, because the trading portion of the premises was undoubtedly the lower portion, and could not be held to include the whole house, as in the case of an inn. Mr. Kennedy, after consideration, came to the conclusion that he could not distinguish the present case from that of *Carritt v. Godson*. He therefore allowed the appeal. But he agreed to state a case for the opinion of the High Court.



COVENTRY PATMORE.

THERE are many reasons why the author of *The Angel in the House* should be had in remembrance of architects. Perhaps the sisterhood of the arts, and the duty in architects of sympathy with fellow-labourers, are in themselves sufficient excuse for the inclusion in our Journal of a few words on a great poet; but Coventry Patmore and his complex life have closer links with the men of our craft than need be sought in the sometimes hypothetical universality of an architect's intellectual sympathies.

At first sight the most architectural feature of the recently-published biography* would appear to be that it owes its authorship to Mr. Basil Champneys, whose double success as a writer and designer gives pleasant disproof to the unwholesome theory that one must not expect good prose and good architecture from the same hand. Indeed we may take credit to our art that so excellent a piece of work has been effected by a brother artist.

Biography, I am told, is no more any fool's job than is architecture, and the particular kind of biography to which Mr. Champneys has laid his hand, and which he has so happily carried through, is of the most difficult sort. The very causes that make the life of a man of letters apparently easier to compile than that of a man of art or action are but the pitfalls that beset his biographer. Patmore, to add to the difficulties, was more than a man of letters, and there is scarcely an aspect of his complicated nature in which unhappy handling would not have meant failure. A gift of "touch" or, as they sometimes call it, "tact" has saved Mr. Champneys from these dangers. He knew his subject intimately in each of his walks of life, and felt for his friend that admiration which is an essential in friendship; yet the biography is as free from the bias which wrecks a reader's confidence as from the insipidity which devitalises a record in which there is no enthusiasm.

I perhaps cannot praise the work better than by a little blame. Mr. Champneys has kept himself too much in the background. His all too few pages of directly personal memoir are by no means the least interesting part of the book. We could, in fact, have done with more of the biographer.

There are folk who have never heard of Patmore; there are many who have heard of him and never read him, and not a few to whom his name means nothing more than the occasion for a smile. Some even among his readers laugh openly at the great, wholesome, and simply-worded poem which will always remain his greatest work. They see the simplicity, ignore the wholesomeness, and miss the greatness. This is quite understandable. There are people who think little of the Apocalypse.

But, to come back to our own subject. Even Patmore's poetry is not without its tinge of

* *Memoirs and Correspondence of Coventry Patmore.* By Basil Champneys. London: George Bell & Sons, 1900.
Third Series, Vol. VIII. No. 3.—3 Dec. 1900.

architecture. The setting of *The Angel in the House*, which has for its scene Salisbury Close, is none the less real for being presented in the fewest words. Such an occasional couplet as

Red brick and ashlar long and low
With dormers and with oriels lit,

is all that occurs in the way of direct description, but the cathedral precincts make themselves undeniably felt as a presence in the poem.

But, though I own to a hearty admiration—of twenty years' standing—for Patmore the poet, it is of Patmore the critic of architecture that I ought particularly to speak here.

It is seldom that a writer of general culture (other than an architect) approaches the theme of architecture with any utterance but vague generality. With Patmore it was otherwise. Very early in his career as a writer, he felt it to be his pleasure and his mission to write upon this subject, and the essays which he contributed before 1860 to the *Edinburgh Review* and other publications showed that he had allowed study to precede the formation of opinion. The results achieved in these early essays have been for the most part gathered together for republication in the volume bearing the title *Principle in Art*, the last essay in which is an important paper on the principal architectural styles. I have read this paper through more than once, and though the last reading like the first produced a certain disappointment, due chiefly to a particular shortcoming, there cannot, I feel, be denied to the author a tribute for the clearness of his critical insight on the value of the elements of design.

The shortcoming that disappoints one is the neglect of the Renaissance. I confess I do not understand how a lover of beauty, whose taste is wide enough to embrace both Greek and Gothic art, can fail to recognise art in the work of the Italian revival. "Italy, the country of the arts," he writes, "never had an architecture."

This is a bold saying, and possibly truthless, remarkable, too, for its place in the history of Patmore's opinions. He went to Italy in 1864, and writing from there acknowledged in more than one of his most readable letters that he had been mistaken in ignoring the work of the sixteenth century. "Genoa," he writes, "is magnificent beyond anything I had expected. I had no notion before of the power of the Cinque Cento architecture on its own soil. . . . I was wrong in making up my mind on this and other architectural points on theory and without seeing the buildings." Many of his former views and prejudices were indeed confirmed. He passes in Rome "a circular edifice of brick with a mean façade" to discover afterwards that it was the Pantheon. He stands within the claws of Bernini's portico, and inquires ironically where is St. Peter's. Yet he has to exclaim "the Lombard 'Duomo' has more than reconciled me to the Italian mode of building in alternate courses of differently coloured marbles," and, again, "I quite distrusted what I had heard of the beauty of some places which have much exceeded my hopes."

Still, when in old age he regathers his architectural writings into a comprehensive form, we find the recantation recanted by omission. He goes back to his former position without so much as a Ruskin-like footnote to say, "I thought this once, but I have changed my mind since."

Patmore's essays should, I think, be read. The views expressed in them are, perhaps, no nearer truth than such applications of canon to architecture are wont to be, but they lead the mind to think on the possible meaning of small things, and of the reasons which may sometimes underlie the apparently unreasonable elements in art. Do but study his notes on the component parts of the Doric order; his analysis of Egyptian architecture (in which its pyramidal *motif* is cleverly insisted on); or his reasoning upon that eternal theme of all legitimate structural design—gravitation and its counteraction—and it will become apparent

that in Patmore our art, as well as other arts, has lost a prophet and philosopher. Sometimes he disappoints by brevity or by a kind of holding back upon the verge of utterance. He approaches, for example, but does not arrive at the apparently sound doctrine concerning sculptured ornament that it should exist only upon such members as are without share in concentrated structural pressure, or at least only on such parts of structural members as are obviously free of special stress. It is in accordance with this law that the best styles avoid the enrichment of the shafts of columns, and while encouraging sculpture on a frieze are sparing in its use on an architrave. The blossoming-out of capitals is no infringement of the rule. The foliage at the summit of a Corinthian or Gothic shaft stands for a kind of testimony that the pier having done its duty from the base upwards in sufficiency of strength, is free at its head to show a symbol of rest—the resultant of a margin of energy.

Not wholly can we agree with Patmore's conclusions, nor even with his propositions, but that, after all, in a writer of this class, is of little consequence. The syllogism is, for the art critic, rather a vehicle of thought than an engine of persuasion. In other words, the study of these matters is but a long Induction. The Deductions, when they are attempted, are but trial flights by which we may test in some small region of art's atmosphere the wings of theory which the critics weave.

Not that Patmore was unsuccessful in his generalities. Here are examples:—

“All artistic production involves a large element of lucky accident; of which the true artist alone knows how to avail himself.”

“As sound philosophy is only sound sense spread out, so true criticism of great work is only right perception spread out.”

Again, speaking of the walling of a Greek temple, and in conflict with Ruskin, who had said that “in the Greek temple the wall is as nothing,” he writes, “the wall is the expression of the passive life that becomes active when it is concentrated in the colonnade.”

And yet again, “a modest ostentation of extreme substantiality is an element of architectural effect.”

For the modern intentional imitation of what in ancient work was accidental, he had no manner of sympathy. One of his best essays is that on “Old English Architecture, Ancient and Modern,” wherein he condemns with force and humour the reproduction in an overgrown villa of the eccentricities of plan and irregularities of outline which come to an old house by the additions of succeeding generations. “Surely,” he concludes, “if the devil were an architect, his favourite sin would be this kind of cottage of gentility.”

I hope I have not written as if there were whole volumes of architectural philosophy from the pen of this dead thinker; there are, indeed, but a few pages. But those pages are so replete with grave thought and gay, and the allusions in his correspondence and life to architecture and its conditions were so deep and so true, that one is forced to realise in him one of the very few minds who, without any professional connection with our art, yet see and can express something more than the surface of its mysteries.

PAUL WATERHOUSE.

THE HIGHER EDUCATION OF ARCHITECTS.

By ARTHUR CATES [F.].

III. THE DEPARTMENT OF ARCHITECTURE, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, BOSTON, U.S.A.

ESTABLISHED so recently as 1865, the Massachusetts Institute of Technology has from small beginnings made such vast strides onward, and has developed technical teaching in so admirable a manner, that it now takes a foremost place in the ranks of such institutes, and is an excellent example of what they should be, when it is desired to encourage and cultivate earnest, continuous, and systematic study, rather than the somewhat amateurish and superficial methods which characterise some of the recently founded Polytechnics in this country.

Organised strictly as a technical institute, on lines similar to those of the great Technical High School of Charlottenburg by Berlin, which has recently celebrated its centenary—and of which, so far as regards its teaching of architecture, a full account will appear in this series—it occupies an entirely different position from Columbia and Cornell Universities, which have already been described, and from Harvard University located at Cambridge (practically a suburb of Boston), which will also be described here; and apparently being primarily intended for a class of students whose preliminary education may not have been so far advanced as that of those entering the University courses, the first year's course is devoted to the organisation and consolidation of that general knowledge essential to be attained before the strictly technical studies can be entered upon; but for admission to this the applicant must have attained the age of seventeen years, and must have passed satisfactory examinations in Algebra, Plane Geometry, Solid Geometry, French or German, English, and History, and also present satisfactory evidence of preparation in one other selected subject. To be admitted as a regular student in the second, third, or fourth year, the applicant must have attained the corresponding age (eighteen, nineteen, or twenty years respectively), and must in general pass satisfactorily examinations in all of the subjects given in the earlier years of the course.

Originated by a Legislative Act of the State passed 10th April 1861, the Civil War led to the postponement of the opening of "The School of Industrial Science" until 1865, when fifteen students attended.

The Institute now offers thirteen distinct courses of instruction, viz.: I. CIVIL ENGINEERING; II. MECHANICAL ENGINEERING; III. MINING ENGINEERING and METALLURGY; IV. ARCHITECTURE;

V. CHEMISTRY; VI. ELECTRICAL ENGINEERING; VII. BIOLOGY; VIII. PHYSICS; IX. GENERAL STUDIES; X. CHEMICAL ENGINEERING; XI. SANITARY ENGINEERING; XII. GEOLOGY; XIII. NAVAL ARCHITECTURE. For the satisfactory completion of the four years' course in any one of these, the degree of Bachelor of Science is conferred by the Institute.

The roll of students for 1900 shows 882 taking the full courses, 296 special, being a total of 1,178 students, for whose instruction there is a staff of 24 professors and 148 assistants—172 teachers in all.

The capital fund invested in real estate, stocks and shares totals up to \$3,119,588, equal to, say, £628,918, besides which large sums have been expended in buildings, plant, fittings, and in aid of income. This great fund has been accumulated from State grants of lands and liberal benefactions by private persons, which are yearly added to, as recently by the gift of Mr. Pierce, \$750,000 (£150,000); that of Mrs. Jenner, \$140,500 (£28,000); of Mrs. Dickinson, \$40,000 (£8,000), and others of very substantial but smaller amounts. The number of ladies who so contribute to this, as to other educational institutions, is remarkable.

An income of nearly £5,000 a year is available to be applied for providing free, or partially free, tuition for deserving students, and important sums in addition can be used to aid the graduate work of advanced students and teachers.

The staff of the Department of Architecture consists of:

Professor FRANCIS W. CHANDLER, Professor of Architecture; two associate or assistant professors, an instructor and a lady assistant (Alice G. Loring), a Professor of Architectural Design (Professor Desiré Despradelle), and two teachers or lecturers, a lecturer on the history of ornament, two instructors in drawing (freehand and pen-and-ink), and one in modelling—twelve in all; the necessary instruction in other essential subjects of the course, such as mathematics, pure and applied, physics, languages, geometry, business law, public health and sanitation, &c., being given by professors of other departments.

The number of regular students taking the full courses is now 53, and there are also 42 special students attending, making a total of 95 on the roll. The new studio, recently erected, provides 135 desks for students, but there is a space for

200, thus anticipating a steady increase in the class.

Women being admitted to all the courses in the Institute, there are now three lady students attending the course of architecture, and seven ladies have already graduated in that department.

The first graduate's degree was granted in 1873 to one only; the number did not increase above six annually till 1892, but 185 have passed in the last eight years, 22 degrees having been granted in 1899. In all 176 degrees have been granted, 7 of the recipients being ladies. It is understood that in the architectural schools throughout the States more than seventy students now graduate every year, a number rapidly increasing as the schools and colleges get into full work; and, moreover, the training gained by the large number who do not graduate, and by those who pass only through the two years' course, must be of great advantage to the profession.

The architectural course aims at preparing its members not only for their years of work as subordinates, when accuracy, rapidity, and taste in drawing and design, with knowledge of detail, will be the most useful qualifications, but also for their subsequent independent careers, when the value of technical knowledge will be most important.

The professional work of the course begins in the second year with the study of the Five Orders and their applications. The student is also made familiar with the materials and principles of construction by lectures and visits to buildings.

During the entire course there is regular instruction in freehand drawing, that of the last year being from life; facility in rendering is gained by a course in water-colour and pen-and-ink drawing.

For three years the students are continually engaged upon architectural design; each student's work is examined and criticised before the classes by a jury from the Boston Society of Architects.

Architectural history is taught by lectures, illustrated by the stereopticon, by text-books, and by written themes.

In the third year the time devoted to Architectural History is much increased, specifications are discussed, and sufficient instruction and practice in working drawings is given to enable the student to be of immediate service on entering an architect's office. A technical course in heating and ventilation is also given, illustrated by the study of important public buildings in the city.

In the fourth year applied mechanics and graphical statics are applied to general practice, and exercises are given in designing trusses and in the problems occurring in modern construction.

An option in Architectural Engineering is offered to students who intend to make a speciality of construction; there is also an option for the study of Landscape Architecture and Gardening; and

advanced courses in design, history, and construction are offered to graduates of the regular course.

Special students in Architecture must be college graduates, or have attained twenty-one years of age with not less than two years' office experience. Before admission to the course they are required to pass examinations in plane and solid geometry, and freehand and mechanical drawing (including projections, isometric, and the elements of descriptive geometry), and must include in their work freehand drawing and descriptive geometry.

COURSE OF INSTRUCTION IN ARCHITECTURE.

FIRST YEAR.

First Term: Algebra—Plane Trigonometry—General Chemistry—Chemical Laboratory—Mechanical Drawing—Freehand Drawing—French or German—Rhetoric and English Composition—Military Science.*

Second Term: Analytic Geometry—Theory of Equations—Mechanical Drawing and Descriptive Geometry—Freehand Drawing—French or German†—United States History—Military Science.

SECOND YEAR.

First Term: Elementary Design—Materials—Shades and Shadows—Freehand Drawing—Differential Calculus—Physics—Mechanics—Wave Motion—Electricity—German or French—English Literature—European History.

Second Term: Design—Perspective—Stereotomy—Freehand Drawing—Integral Calculus—Physics—Electricity—Optics—German or French—English Literature and Composition.

THIRD YEAR.

First Term: Design (10 hours per week)—Ancient and Romanesque Architecture—Specifications and Working Drawings—Freehand Drawing—Heating and Ventilation—General Statics—German or French—Political Economy.

Second Term: Gothic and Renaissance Architecture—Freehand Drawing—Pen-and-ink—Building Stones—Strength of Materials—German or French—Political Economy and Industrial History—Business Law; with the option of Design (14 hours per week) or Structures and Structural Design.

FOURTH YEAR.

First Term: History of Construction—European Civilisation and Art—Pen-and-ink; with the option of Design (19 hours per week)—Con-

* V. footnote, p. 43 ante.

† Students entering in French take German in their second and third years, and vice versa; thus both languages are acquired.

structive Design—History of Ornament—Life Class—Water-colour—Strength of Materials—Colour and Acoustics; *or* Structures—Structural Design—Strength of Materials.

Second Term: Business Relations—European Civilisation and Art—Principles of Public Health and Sanitation—Thesis; *with the option of Design (26 hours per week)*—History of Ornament—Life Class—Modelling—Pen-and-ink—Water-colour; *or* Structures—Laboratory Tests of Building Materials.

The annual fee for tuition for the whole course is \$ 200 (£40).

Thus the instruction comprises the study of construction and materials, the study of building processes, and of professional practice, of composition, design, and the history of architecture. It is arranged to meet the needs of those who are commencing their professional studies, as well as of experienced draughtsmen, who desire to make up deficiencies in their training, or to qualify themselves for undertaking the responsibilities of practice.

In addition to the general library of the Institute for works of ordinary reference, the Architectural Library contains nearly four thousand volumes of technical works, a carefully selected collection of eleven thousand photographs, six thousand lantern slides, and the leading American and foreign periodicals.

The chief part of the collection of casts of architectural sculpture and detail belonging to the department has been deposited in the Museum of Fine Arts, and arranged with the architectural collections belonging to that museum, to which the students have free access.

The studies are not limited to the university course; travelling students send measured drawings from Italy. Many graduates continue their studies abroad, a year of study and travel in Europe forming an excellent continuation of the course, especially when the studies are properly directed under scholarly supervision.

In the vacation there is a Summer School of Architecture, which since 1896 has pursued its studies abroad, making bicycle tours in Canada, England, France, and Italy, making measured and other drawings by the way, and freely using the camera for important details and buildings; and thus the whole year's course of study is completed.



9, CONDUIT STREET, LONDON, W., 8th Dec. 1900.

CHRONICLE.

Proposed Alteration of the Steps of St. Martin's.

With reference to the question of the alteration of the steps of St. Martin's-in-the-Fields for the purpose of widening the thoroughfare at this point, the following letter requesting the opinion of the Royal Institute upon the matter was received from the London County Council on the 2nd November:—

To the Secretary of the Royal Institute of British Architects.

SIR,—The Council has recently had before it a proposal made by the Vestry of St. Martin's-in-the-Fields for the widening of St. Martin's Place by the alteration of the steps in front of St. Martin's Church, a work towards the cost of which the Vestry have asked the Council to make a contribution.

The Vestry's proposal is shown upon the plan sent herewith, and is fully described in the enclosed report which the Improvements Committee recently submitted to the Council. The Council, upon taking the report into consideration, decided to refer the recommendation back to the Committee with instructions to take expert opinion as to the architectural effect of the proposed alteration, and to request the Vestry meanwhile to take no further action for carrying out the work. In compliance with this decision the Vestry have been asked to take no further action at present, and the Council's Improvements Committee, who have again had the subject before them, will be very glad if the Royal Institute of British Architects can see their way to give the Council the benefit of their views upon the Vestry's proposal.

I may add that during the debate in the Council several alternative suggestions were made, one being that the steps might be set back to a position within the line of the columns fronting the church, and another was to the effect that a vertical wall on the west side of the columns might be substituted for the steps in order to increase the width of the carriage-way and footway opposite the church.

I mention these suggestions, not because the

Council in any way decided to adopt them, but because the Committee are anxious to obtain the fullest advice of the Royal Institute upon the suggested alteration of the steps of the church. If there is any further information which your Institute may desire upon the subject I shall be happy to supply it upon your communicating with me.—I am, Sir, your obedient servant,

G. L. GOMME, *Clerk of the Council.*

The Report of the Improvements Committee referred to in the above letter read as follows :—

St. Martin's Place—Capital vote, £270.

The Vestry of St. Martin's-in-the-Fields have submitted to us a proposal for the widening of St. Martin's Place by the alteration of the steps in front of St. Martin's Church; and they have asked the Council to contribute part of the cost of the work. The steps have been in a dilapidated condition for some time, and owing to their condition and position are the cause of frequent accidents to pedestrians. The Vestry in 1896 asked the Council to undertake as a county improvement the reconstruction of the steps in such a way as to secure a widening of St. Martin's Place. The Council on 13th April 1897, upon our recommendation, informed the Vestry that it was not prepared to carry out the work as a county improvement. We have given careful consideration to the proposals now put forward by the Vestry. At the present time a flight of steps leads from the portico of the church to a terrace or landing. This landing is about 9 feet wide on the south side of the portico, and connects with the footway of Duncannon Street by another flight of steps. The landing on the west side of the portico is about 4 feet 6 inches wide, and connects with the footway of St. Martin's Place by a flight of steps which gradually tapers away as the footway rises to the level of the landing at its northern end. The footway between the lower flight of steps and the carriage-way is in some places less than 6 feet wide; and at this part the carriage-way of St. Martin's Place is only about 37 feet wide. The Vestry have agreed with the church authorities for the reconstruction of the steps in such a way as to remove the landing on the west side of the portico and to lessen the width of the landing on the south side. A continuous flight of steps will lead from the western front of the portico to the footway of St. Martin's Place, and the effect of the abolition of the landing will be to widen the footway to about 9 feet. In consideration of the Vestry undertaking the work, the church authorities will surrender without money payment the land to be added to the public way. We regret that it is not possible at the present moment to increase the width of the carriage-way; but any increase in the width of the thoroughfare at this part, whether carriage-way or footway, must be of great advantage to traffic generally. The vehicular and pedestrian traffic at this spot is enormous, and consists not of local traffic, but of that going to and from all parts of London. We see no other way of obtaining a widening opposite St. Martin's Church, as the National Gallery is on the other side of the road, and any alteration of that building is out of the question. Before approving the plan submitted by the Vestry, we considered alternative schemes, with a view to the Council concurring in the adoption of the most suitable scheme to widen St. Martin's Place without interfering in an undesirable way with such a prominent and well-known building. We came to the conclusion, however, that the Vestry's proposal was the most suitable, and likely to detract least from the architectural effect of the present arrangement of the steps. From contemporary prints it would appear that the lower flight of steps formed no part of the original design.

When the Vestry made application to us in July last they stated that the cost of the proposed work was estimated at £608. They now inform us, however, that as accidents frequently occur they have felt compelled to undertake the work at once to secure its completion before the winter sets in, and that they have therefore entered into a contract amounting to £811 10s. 2d. We quite agree with the Vestry as to the urgency of the work, and we therefore approve of the action taken by them in the matter. We consider that the Council may reasonably contribute one-third, not exceeding £270, of the net cost of the scheme which the Vestry propose to adopt, and we recommend—

That the estimate of £270 submitted by the Finance Committee be approved, and that the Council do contribute, on the usual conditions, one-third of the net cost of the reconstruction by the Vestry of St. Martin's-in-the-Fields of the steps in front of St. Martin's Church in such a way as to increase the width of the footway on the eastern side of St. Martin's Place to about 9 feet, as shown upon the plan submitted by the Vestry on 14th July, 1900, such contribution not to exceed the sum of £270.

Referred back to the Committee.

The reply of the Council of the Royal Institute was made on the 18th November in the following terms :—

To the Clerk of the London County Council.

SIR,—With reference to your letter of the 2nd November, in which you convey to the Council of the Royal Institute of British Architects an invitation from the London County Council to express their views as to the Report of the Improvements Committee on the Vestry's proposed scheme for altering the steps of St. Martin's-in-the-Fields, I am instructed by my Council to reply as follows :—

The Council of the Royal Institute are strongly of opinion that the suggested removal of the landing, which now divides the flight of steps leading up to the portico, would be very detrimental to the appearance of the west front of this fine church. Owing to the fall in the ground from north to south, the lower steps are of necessity broken off where they merge in the ground line. An unsymmetrical base of this kind to a symmetrical portico would have a distinctly bad architectural effect, but by the ingenious device of dividing the flight of steps in the middle, a perfectly symmetrical base of seven unbroken steps is provided for the colonnade, while the lower steps, which must terminate unsymmetrically, are separated from the design of the building and do not form part of it. My Council feel therefore that nothing short of actual necessity could justify the removal of the landing or platform, while from the personal observation of its members and reliable information received, they are fully assured that no such necessity exists.

In the event of the widening of the public footpath ever becoming necessary, they have no doubt that the suggested setting back of the western steps is the least objectionable means of effecting the purpose. But even if on account of such necessity the landing be omitted from the steps in

front of the portico, they strongly recommend that it should still be retained on the south side, where it would be useful in helping to preserve somewhat of a symmetrical appearance to the base of the portico.

While considering the question of the appearance of this portico, my Council beg leave to suggest whether it would not be possible to remove the cast-iron railings now fixed at the top of the steps and between the columns, as they constitute a serious disfigurement to the building.

I am, Sir, your obedient servant,
W. J. LOCKE, *Secretary*.

The views of the Council of the Royal Institute as set forth in the above letter were quoted in full in the Report brought up by the Improvements Committee at the Meeting of the London Council on the 27th November. The Report, however, went on to state that

After a full and careful review of all the facts, and having regard to the opinion expressed by the Royal Institute of British Architects, we have decided to advise the Council to contribute towards the cost of the work proposed to be undertaken by the Local Authority, subject to the Council of the City of Westminster agreeing to retain the platform in the steps on the southern side of the church. We are impressed by the fact that the great extent of the traffic along St. Martin's Place necessitates the widening of the thoroughfare, and we consider that the least objectionable method of providing for this is by adopting the proposal made by the Local Authority, subject, however, to the qualification in regard to the retention of the platform on the south side of the church. We are not prepared, however, to advise the Council to arrange for the removal of the cast-iron railings from the top of the steps, as suggested by the Royal Institute, because we consider such a course most undesirable, although we admit that architecturally they detract somewhat from the appearance of the building.

The adoption of the recommendation of the Improvements Committee was moved by Colonel Probyn, Dr. Longstaff, the Chairman of the Committee, refusing to do so.

Colonel PROBYN said that the ecclesiastical authorities had consented to give up the steps to be dealt with for the public benefit, and the Local Authority fully recognised the importance of the improvement. What was proposed was to do away with the "table-land" and to add 2 ft. to the public footway—a loss to the church of very slight account, but a considerable gain to the public.

Mr. SHAW LEFEVRE moved as an amendment that, in view of the report of the Royal Institute of British Architects, the Council was not prepared to take the responsibility of sanctioning the alteration by contributing any part of the cost.

Sir H. B. POLAND, Q.C., seconded the amendment, and said that had the St. Martin's Vestry had before them the Report of the Royal Institute, they would never have sanctioned the alteration or entered into a contract for carrying it out. He felt that the iron railings at the top of the steps were an eyesore, and he could not think why,

according to the Committee, their removal would be undesirable.

Mr. PARKER supported the amendment, and said that this was not an improvement from the public point of view, and the proposal, if carried out, would not do much to widen the road.

The Hon. W. PEEL, M.P., said he would be no party to the mutilation of this beautiful church. It was wholly unnecessary for the Council to assist in damaging the church for the sake of merely adding 2 ft. 6 in. to the footway. When they asked the opinion of a body like the Royal Institute they should be led by its Report. It would be little short of an insult, having asked the Institute for its opinion, to set it aside in the manner proposed.

Colonel ROTTON said he hoped that the amendment would be carried. For anything the Council could do the alteration would be carried out, as the sum asked for was only £270.

Mr. BEACHCROFT said he should have thought the matter would have been treated on the basis of an ancient monument. No one who had seen the church could fail to see that a good deal depended on the maintenance of the steps as they are, though if it had been proposed to round the corner of Duncannon Street, he should have sacrificed his æsthetic views for utilitarian purposes and vote in favour of an improvement at this point.

Mr. BURNS, M.P., was not prepared to help make the Council a zereba behind which the Westminster Council could shelter itself from the artistic and æsthetic views which London architects would undoubtedly bring to bear upon it for tampering with this church. No one could deny that there was congestion of traffic just by the church, and he was convinced that a widening was necessary. He suggested that one of the wealthy parishioners, such as Mr. Astor, should give the vicar of St. Martin's £10,000 with which to engage a competent architect, under whose guidance they could underpin the whole church, including the portico, put it on a sliding gantry, remove it 40 ft. back, and give it an alignment with Duncannon Street. In that way alone could the widening of St. Martin's Place be carried out without injuring the church. He asked the Council to preserve itself from a suggested act of vandalism.

Colonel PROBYN said it was absurd to use the word "vandalism," for the church would not be touched at all. Moreover, in the original drawings of the church there was no "table-land" at all between the steps. The "table-land" was put in so as to adjust matters when the level of St. Martin's Lane was disturbed at a later date.

Dr. LONGSTAFF said that if this street required widening the easiest way would be to take down a portion of the National Gallery—that portion which was architecturally the least important.

Eventually Mr. Shaw Lefevre's amendment was carried by a large majority.

THE NOVEMBER EXAMINATIONS.

The Preliminary.

Preliminary Examinations, qualifying for registration as *Probationer R.I.B.A.*, were held simultaneously in London, Birmingham, Bristol, Manchester, and York on the 6th and 7th ult. The examinations in the provinces were conducted by the Allied Societies of the respective centres. Of the 172 candidates admitted, claims for exemption from sitting were allowed to the number of thirty-two. The remaining 140 were examined, with the following results:—

	Examined	Passed	Relegated
London	78	68	20
Birmingham	9	9	0
Bristol	11	7	4
Manchester	25	22	3
York	17	13	4
	140	109	31

The successful candidates, together with those exempted, making a total of 141 newly registered Probationers, are as follows:—

ANDERSON: Arthur William; 4, Hurst Road, Horsham, Sussex [Master: Mr. C. H. Burstow].
 ASHTON: Arthur; Fern Heath, Murray Road, Rugby [Master: Mr. J. T. Franklin].
 AUSTIN: George Trevor; Westmead, Augustus Road, Edgbaston, Birmingham [Masters: Messrs. Essex, Nicol & Goodman].
 BARRETT: Willis Theodore McNaghten; Etruria Vicarage, Stoke-on-Trent [Masters: Messrs. Lynam,* Beckett,* & Lynam].
 BEARE: Josias Crocker; Stanmore, Newton Abbot [Masters: Messrs. Watson & Watson].
 BEAUMONT: Baron William Richard; 7, West Southernhay, Exeter [Master: Mr. W. Street-Wilson].
 BELL: Frank; 10, St. James's Square, Manchester [Master: Mr. J. W. Beaumont*].
 BLACK: Herbert; 51, Stanley Gardens, Belsize Grove, Hampstead [Hamilton's Academy, Victoria, Australia].
 BLETHYN: Charles Lancelot; 13, Wellfield Place, Roath Park, Cardiff [Master: Mr. Lennox Robertson].
 BRADSHAW: Annie Welsby; Greenmont, Heaton, Bolton [Liverpool School of Architecture].
 BRAITHWAITE: James Ellis; May House, St. Mark's Avenue, Leeds [Master: Mr. W. S. Braithwaite].
 BRIGHTIFF: Charles Henry; 80, Argyle Road, Southampton.
 BROOKER: Frederick George; Ingleside, Elm Grove, Peckham Rye, S.E. [Polytechnic, Regent Street].
 BROOKES: Claud Francis Hooton; Eye, Peterborough [Masters: Messrs. Townsend * & Fordham].
 BUCK: Roland James; Sunny Hill, Hurst Road, Horsham, Sussex [Master: Mr. William Buck].
 BURCHETT: Howard William; 4, Raeburn Street, Brixton, S.W. [Masters: Messrs. Stevenson * & Redfern].
 BURNS: Cecil Leonard; Hillside, Forest Row, Sussex [Tonbridge School].
 CATHIE: Hugh Wentworth; The Chestnuts, East Shcen, Surrey [Masters: Messrs. Treadwell & Martin].
 CHAPLIN: Ernest; 16, Salisbury Road, Hove [Southdown College, Eastbourne].
 CLAPHAM: Alfred William; 38, Bromley Road, Beckenham, Kent [Master: James Weir*].
 COLLCUTT: Philip Martin Blake; 86, Bloomsbury Square, W.C. [Master: Mr. T. E. Colcutt*].

COOK: John Oliver; North End Villa, Wrotesley Road, Plumstead [Marlborough House School, Sidcup].
 COUSSMAKER: Lannoy John; Forest School, Walthamstow [Forest School, Walthamstow].
 CRAWLEY: Percy George; Aboyne Lodge, Woodston, Peterborough [Master: Mr. William Boyer].
 CROMPTON: Theodore Emlyn; Bedales School, Petersfield, Hampshire [Bedales School, Petersfield].
 CROWE: Joseph John; Gweedore, Brentwood [Master Mr. A. T. G. Woods].
 CROWLEY: Laurence; 56, Kingston Crescent, Portsmouth [Portsmouth Grammar School].
 DAY: John; Oak Villa, Hatfield Street, Wakefield [Master: Mr. William Rhodes Nunns].
 EVANS: William Heather; 8, Portland Street, Southampton [Master: Mr. E. W. Evans].
 FAIRBURN: Harold John; Bank House, London & County Bank, King's Cross, N. [Master: Mr. C. H. M. Mileham].
 FARRAR: George Arthur; Springdale, Huddersfield [Masters: Messrs. Abbey & Hanson].
 FORSYTH: Charles; 33, West Cumberland Street, Glasgow [Master: Mr. Robert Turnbull].
 FOSTER: Reginald Charles; Newton House, Loughton [Master: Mr. H. Tooley*].
 FREEMAN: Willie Josiah; 23, Woodbine Terrace, Halifax [Masters: Messrs. Jackson & Fox].
 FROST: Ernest Leonard; 154, Croydon Road, Anerley, Surrey [Masters: Messrs. Still & Wheat].
 FULLER: Noel Hamilton Thomas; Huish House, Taunton [Mr. C. H. Samson*].
 GADSDON: Arthur Henry; The Hawthorns, West Ashling, Chichester [Masters: Messrs. Dale & Gadsdon].
 GEATER: Richard Mannall; 21, Lorraine Road, Holloway, N. [Master: Mr. D. H. Baker].
 GEORGE: Wilfrid Harold; Elm Villa, London Road, Cheltenham [Masters: Messrs. Prothero* & Phillott].
 GODFREY: Walter Hinds; Farleigh, Berlin Road, Catford, S.E. [Master: Mr. James Williams].
 GOLDSMITH: George Hartley; Odstone Hale, Cheshire [Bowden College].
 GOULDER: Arthur Christopher; 44, Fairlop Road, Leytonstone, N.E. [Mercers' School].
 GREENWOOD: Augustus George; 73, West Cromwell Road, South Kensington, S.W. [St. Paul's School, W. Kensington].
 GROVES: Chris'opher; Oakdale House, Chester-le-Street, Co. Durham [Master: Mr. J. Walton Taylor*].
 HALL: Alner Wilson; Crowhurst, 24, Blakesley Avenue, Ealing, W. [St. Paul's School, West Kensington].
 HARRINGTON: Llewellyn Harry; Fulhamville, Cambridge Road, Bromley, Kent [Quernmore School].
 HARVEY: William; 55, Edgware Road, W. [Polytechnic, Regent Street].
 HAYWORTH: Dudley Parks; 91, Cazenove Road, N. [Masters: Messrs. Reeves & Styche].
 HAZARD: Cecil James; Castle Court, Spa Road, Boscombe, Hants [Master: Mr. G. A. Bligh Livesay*].
 HEALEY: Alfred John; 70, Regent's Park Road, N.W. [Uppingham School].
 HEALEY: Hugh; Derwent Villa, Ivy Lane, Didbury, nr. Manchester [Master: Messrs. Thos. Worthington * & Son*].
 HELLARD: Wilfred Bettesworth; Lynwood, Teddington, Middlesex [Master: Mr. Harold A. Woodington*].
 HENDERSON: John Louis; 7, Greenhill Park, Edinburgh [Masters: Messrs. Hay & Henderson].
 HIGGINBOTTOM: Frank; 4, Kinnaird Road, Withington, Manchester [Masters: Messrs. W. & G. Higginbottom].
 HILL: Eliot Foley; 11, St. James's Terrace, Winchester [Masters: Messrs. Cancellor & Hill*].

- HILTON: Reginald Musgrave; Bayton, Cottenham Park Road, Wimbledon [King's College School, Wimbledon Common].
- HODGES: Claude Vivian; 70, Melbourne Road, Leicester [Master: Mr. Walter Brand *].
- HOLLINGDALE: Stephen Russell; 112, Ledbury Road, Talbot Road, Bayswater, W. [Master: Mr. Douglas Matthews].
- HOLT: Joseph Bernard; Lancaster Villa, Albert Road, Levenshulme [Master: Mr. W. Randolph].
- HOPE: Peter Ballingall Malcolm; Spens Crescent, Perth [Master: Mr. George P. K. Young *].
- HOWITT: C. E.; 14, Mapperley Park Drive, Nottingham [Master: Mr. John Howitt *].
- IIUNNISETT: Hubert; Railway Station, Rye, Sussex [Master: Mr. F. H. Humphreys *].
- HUTTON: David Bateman; 78, Park Road, Glasgow [Master: Mr. Robert Miller].
- HYDE: William Henry; Station House, Nailsworth, near Stroud, Gloucestershire [Master: Mr. T. A. Lawson].
- IREDALE: Athelstan Linton; Landour, Park Road, Stroud [Dean Close Memorial School, Cheltenham].
- IRVINE: James Potts; c/o A. A. Forman, Central Chambers, Londonderry [Master: Mr. A. A. Forman].
- JARVIS: John Weston; Essex Villa, Alcester Road, Moseley [Master: Mr. F. B. Osborn *].
- KEIGHLEY: Henry Frederick; 24, Fernleaf Street, Moss Side, Manchester [Masters: Messrs. T. P. Worthington & Son].
- LAISTER: Arthur Hopkins; c/o W. Wrigley, Esq., 6, Westgate, Wakefield [Master: Mr. W. Wrigley].
- LATES: William Burgess; 14, Smallbrook Street, Birmingham [Master: Mr. A. E. McKewan *].
- LEAHY: William; Llanvair, The Avenue, Yeovil [Master: The Very Rev. A. J. Canon Scoles].
- LERESCHE: Guy; 10, St. Paul's Road, Kersal, Manchester [Master: Mr. John Ely *].
- LITTLE: Tom Curry; School House, Longtown, Cumberland [Masters: Messrs. Johnstone Bros.].
- LOVEITT: Rowland Arthur; 12, Grosvenor Street, Coventry [Master: Mr. Frederick Foster].
- MCDERMOTT: Walter Kingsley; Boro' Green, Kent [Master: Mr. Hubert Bensted *].
- MACKAY: Alexander Sinclair Wemyss; West Walls, Carlisle [Master: Mr. Charles J. Ferguson, F.S.A. *].
- MEDCALF: Rupert Boyd; Hazelhurst, Aughton, nr. Ormskirk [Masters: Messrs. Medcalf & Medcalf].
- MERCER: Robert; 95, Queen Street, Great Harwood, near Blackburn, Lancs. [Master: Mr. G. B. Rawcliffe].
- MOSS: Sydney; Rock Bank, Monton Road, Eccles, Manchester [Master: Mr. J. W. Beaumont *].
- MOXON: George Edmund; 104, Dodworth Road, Barnsley [Master: Mr. George Moxon].
- MURCH: Spencer Harris Joseph; Oakhurst, Loughton, Essex [Master: Mr. Walter Stair].
- MURRAY: Andrew Farquharson; 4, Gloucester Place, Portman Square, W. [Master: Mr. H. Chatfield Clarke].
- MUSTO: Joseph Robert; 129, St. John's Road, Hornsey Rise, N. [Master: Mr. W. A. Burr].
- MYER: George Valentine; 157, Sutherland Avenue, Maida Vale, W. [Master: Mr. John Belcher, A.R.A. *].
- NEWTON: Francis Giesler, c/o Aston Webb, Esq., A.R.A., 19, Queen Anne's Gate [Master: Mr. Aston Webb, A.R.A. *].
- NICHOLLS: Frank; Forest Lodge, Whipps Cross, Leyton, Essex [Master: Mr. Edwin O. Sachs].
- OLD: Frank Alfred Charles; 5, Poynings Road, Highgate, N. [Masters: Messrs. Wylson * & Long *].
- OWEN: Gwilym Morris; c/o Dr. R. O. Morris, 72, Westbourne Road, Birkenhead [Portmadoc County School].
- PAGE: Bernard Culmer; 192, Clapham Road, S.W. [Tonbridge School].
- PAGE: John; St. Aubyn's, South Lowestoft [St. Aubyn's School, Lowestoft].
- PARR: Harold James; 16, Claribel Road, Brixton, S.W. [Master: Mr. Wm. Woodward *].
- PATERSON: William Esson; The Shrubbery, Gloucester Road, Cheltenham [Master: Mr. R. Hooper Turner].
- PAYNE: Albert Ernest Stanley; 39, Jerningham Road, New Cross, S.E. [Master: Mr. W. W. Gwyther *].
- PEARSON: John Herbert; 83, Balham Park Road, S.W. [Master: Mr. George Pearson *].
- PETTIT: Walter Alfred Seamer; 46, Sars'eld Road, Balham, S.W. [Master: Mr. W. H. Seth-Smith *].
- PICKARD: Walford Harry; Camden House, Talbot Street, Whitchurch, Shropshire [Master: Mr. J. Harry Pickard].
- PLOTTEL: Joseph; 62, Bolckow Street, Middlesbrough [Master: Mr. Robert Moore].
- PORTER: Henry Arthur; 131, Old Road, Gravesend [Modern School, Gravesend].
- POTTER: Charles Henry; The Dimple House, Matlock Bridge [Derby Municipal Technical College].
- POTTS: Arthur Frederick; Elim, Granleigh Road, Leytonstone [Polytechnic, Regent Street].
- POTTS: Gilbert Ackroyd; Quorndon, Brackley Road, Monton Green, Manchester [Masters: Messrs. Potts, * Son, & Hennings].
- PYPPE: William; Hillhead of Pitfodels, Culterby-Aberdeen [Master: Mr. William Kelly].
- RAYNER: Leslie George; 1, Constitution Crescent, Gravesend [Masters: Messrs. Rayner & Bridgland].
- REED: Charles Albert; 47, Caldervale Road, Clapham, S.W. [Master: Mr. E. A. E. Woodrow *].
- RHODES: Thomas Herbert; 17, Hyde Terrace, Leeds, Yorkshire [Masters: Messrs. Kendal & Bakes].
- ROBERTSON: Alexander Smeaton; 22, George Street, Perth, N.B. [Master: Mr. G. P. K. Young *].
- ROUND: Douglass Gray; Sutton Court, Sutton, Surrey [Master: Mr. Aston Webb, A.R.A. *].
- RYAN: John Aloysius; 1, Metal Exchange Buildings, Whittington Avenue, E.C. [Master: Mr. W. P. Ryan].
- SAVAGE: Hubert; Arrandale, Beaconsfield Road, St. Albans, Herts [Master: Mr. E. Harding Payne *].
- SAW: Duncan Grout John; 58, Browns Wood Road, Green Lanes, N. [St. Thomas' Charterhouse School].
- SAWYER: Harold Selwood; 2, Grafton Road, Winchester, Hants [Master: Mr. J. Ashton Sawyer].
- SAYNER: John Harold; 6, Lancaster Road, Harrogate [Master: Mr. George W. Atkinson].
- SCOTT: Harold Seymour; Overdale House, Whitehall Road, Handsworth, Birmingham [Master: Mr. Matthew J. Butcher].
- SECCOMBE: Henry Edward; 13, Victoria Road, Clapham Common, S.W. [Master: Mr. John T. Lee *].
- SINCLAIR: William Charles Braxton; Lynton, Parkhurst Road, Bexley, Kent [Master: Mr. W. Goldsmith *].
- SMITH: Bouton Charles; Warren Height, Caversham, Oxon. [Master: Mr. Wm. Ravenscroft *].
- SMITH: Harold Seymour; 12, Henrietta Street, Old Trafford, Manchester [Master: Mr. H. R. Price].
- SOLOMON: Henry; 41, Bromwich Street, Haulgh, Bolton [Master: Mr. N. H. Jameson].
- SOLOMON: Paul Harold; The Villas, Stoke-on-Trent, Staffs [Masters: Messrs. Wood & Hutchings *].
- SPOOR: Stanley Miles; Portinscale House, East Putney [King's College School, Wimbledon Common].
- STOCKDALE: William; 19, Waterville Road, North Shields, Northumberland [Masters: Messrs. T. A. Page & Son].
- SUDBURY: Ernest Allen; Cavendish House, The Park, Nottingham [Master: Mr. Arthur Marshall *].

SYKES: Frank; 3, West View, Windermere Road, Kendal [Master: Mr. Henry Lord *].
 TALL: Robert John; 7, The Grove, Gravesend [Master: Mr. Chas. Cobham].
 TALLON: Thomas T.; 31, Gardiners Place, Dublin [Master: Mr. W. Hague].
 TASKER: Harry Francis; Maryon Hall, Froggnal Lane, Hampstead [Master: Mr. F. W. Tasker *].
 THOMAS: Basil Walter; St. Bede's Hill Lane, Southampton [Master: Mr. Thomas].
 THORNE: Thomas; Claremont House, Erlanger Road, Brockley, S.E. [Masters: Messrs. Bell, Withers, & Meredith *].
 TINDALL: John Empson; Crown Hotel, Lavender Hill, S.W. [Master: Mr. W. G. Ingram].
 TURPIN: Wilfrid; Park View, Roker, Sunderland [Master: Mr. Joseph Spain *].
 UNWIN: Harry; 27, Hammond Street, Bolton [Master: Mr. H. Pennington].
 WADE: Fred; 47, Beamsley Road, Frizinghall, Bradford [Master: Mr. E. H. Parkinson].
 WALKER: Frederick Arthur; Ghyllcroft, Tanza Road, Hampstead, N.W. [Master: Mr. T. J. Bailey *].
 WESTON: Percy; Mona House, Ranmoor Cliffe, Sheffield [Master: Mr. Joseph Smith *].
 WETHERILL: Newton Charles; 86, Boundary Road, South Hampstead, N.W. [Polytechnic, Regent Street].
 WHITE: Oswald; Barton House, Barton-under-Needwood, near Burton-on-Trent [Birmingham Central School of Art].
 WILLMOTT: Edmund Charles Morgan; 197, Richmond Road, Roath, Cardiff [Master: Mr. Lennox Robertson].
 WILSON: Allen Woodward; Brinkdale, Park Road, Peterborough [Master: Mr. Wm. Boyer].
 WILSON: Russell; 5, Milner Road, Meersbrook Bank, Sheffield [Masters: Messrs. Hall & Fenton].
 WORSSELL: James Lloyd; 24, Harrington Street, Regent's Park, N.W. [Master: Mr. E. A. E. Woodrow *].
 WYLIE: Richard; 20, Wilberforce Terrace, Gateshead-on-Tyne [Masters: Messrs. Cackett * & Burns Dick].

The asterisk (*) denotes members of the Institute.

The Intermediate.

The Intermediate Examination, qualifying for registration as *Student R.I.B.A.*, was held in London and the various provincial centres indicated below on the 6th, 7th, and 8th November. The examinations in the provinces were conducted by the Allied Societies of the respective districts. Fifty-nine candidates were examined, the results being as follows:—

	Total Examined	Passed	Relegated
London	45	29	16
Bristol	6	2	4
Manchester . . .	8	4	4
	59	35	24

The successful candidates, whose names have been entered on the Register of *Students R.I.B.A.*, are as follows, the names being given in order of merit, as placed by the Board of Examiners:—

HOPE: Arthur John [Probationer 1895]; Four Lane Ends, Atherton, Manchester [Masters: Messrs. Bradshaw & Gass].
 GAUNT: Edward Lawrence [Probationer 1900]; Briarfield, Ilkley, Yorks. [Master: Mr. Thos. Barker].
 DOBSON: Walter Ernest [Probationer 1894]; Gothic House, Chislelett Road, West Hampstead [Master: Mr. Ernest George *].

ALLAN: David Lindsay [Probationer 1892]; 10, Airlie Terrace, Dundee [Master: Mr. J. Murray Robertson *].
 HALL: Herbert Alfred [Probationer 1899]; 1, Quarry Terrace, Hastings [Master: Mr. Philip Tree *].
 HOSKINS: Henry Joseph Bissaker [Probationer 1898]; 23, Longmore Street, Birmingham [Masters: Messrs. Cossins, Peacock, & Bewlay].
 TAYLOR: Alfred John [Probationer 1896]; 8, New Bond Street, Bath [Master: Major C. E. Davis, F.S.A.].
 HASWELL: Frederick [Probationer 1898]; 77 Tyne Street, North Shields [Master: Mr. F. R. N. Haswell *].
 WHIPP: Thomas William [Probationer 1900]; 156, Falsgrave Road, Scarborough [Master: Mr. C. Edeson].
 PRINCE: Harry [Probationer 1897]; 11, Clanricarde Gardens, Bayswater, W. [Master: Professor R. Elsey Smith *].
 STEPHENS: Samuel Cooper [Probationer 1894]; Nursery Road, Hockley, Birmingham [Master: Mr. J. G. Dunn *].
 MILNE: Oswald Partridge [Probationer 1899]; 3, Dynevor Road, Bedford [Masters: Sir A. W. Blomfield & Sons].
 DAVIDGE: William Robert [Probationer 1898]; Hope-toun, Teddington Park Road, S.W. [Master: Mr. Marshall Hainsworth].
 SMITH: Neil Campbell [Probationer 1900]; 1, New Court, Temple, E.C. [Master: Mr. Reginald T. Blomfield].
 DIXON: Ernest John [Probationer 1896]; 23, Idmiston Road, Stratford, E. [Master: Mr. Charles Trubshaw *].
 GRADWELL: Arthur Roland [Probationer 1898]; Bank Villas, Blackburn [Master: Mr. A. R. Gradwell].
 HOOPER: Vincent [Probationer 1896]; Elms Road, Redhill, Surrey [Master: Mr. T. Rowland Hooper *].
 WILSON: John Goddard [Probationer 1899]; 76, Warwick Road, Maida Hill, W. [Master: Mr. Aston Webb, * A.R.A.].
 BALLARDIE: John Hutcheson de Caynoth [Probationer 1895]; Hampden House, Phoenix Street, N.W. [Master: Mr. Alfred Waterhouse, R.A. *].
 HOOLE: George Bernard Holland [Probationer 1891]; Lastingham, Hornsey Lane, Highgate, N. [Master: Mr. E. Hoole *].
 LOVEGROVE: Gilbert Henry [Probationer 1898]; Eboracum, Herne Hill, S.E. [Master: Professor R. Elsey Smith *].
 CASTELLO: Manuel Nunes [Probationer 1899]; 43, Compagne Gardens, S.W. [Master: Mr. Lewis Solomon *].
 NAYLOR: James John Sydney [Probationer 1897]; 9, St. Stephen's Square, Bayswater, W. [Master: Mr. E. W. Jennings *].
 BENNETT: Robert [Probationer 1898]; c/o Messrs. Parker & Unwin, the Quadrant, Buxton [Master: Messrs. Parker & Unwin].
 PARKINSON: Charles Edmund Lancaster [Probationer 1899]; 56 Upper Kennington Lane, S.E. [Master: Mr. A. Hopkinson].
 CHILWELL: Benjamin Charles [Probationer 1898]; Oakeswell, Wednesbury [Master: Mr. A. J. Dunn *].
 NOTLEY: Albert Carr [Probationer 1898]; Larksfield, Englefield Green, Staines [Master: Mr. Edmund Woodthorpe *].
 CLARKE: Herbert Ford [Probationer 1898]; 22, Sandy Grove, Eccles Old Road, Pendleton, near Manchester [Manchester Municipal School of Art].
 LEEPER: Leonard [Probationer 1899]; Belton Rectory, Great Yarmouth [Master: Mr. J. W. Cockrill *].
 LING: Frederick Allen [Probationer 1897]; 1, Pitcairn Road, Mitcham, Surrey [Master: Mr. F. W. Foster].

MIDWINTER: Arthur Adair [*Probationer* 1896]; St. Paul's Vicarage, Lisson Grove, N.W. [*Masters*: Messrs. Boehmer & Gibbs *].
 REES: William Beddoe [*Probationer* 1898]; 14, Northcote Street, Cardiff [*Master*: Mr. W. J. Grylls].
 SUTTON: Charles Ernest Burgett [*Probationer* 1895]; 11, Winwick St., Warrington [*Master*: Mr. William Owen*].
 THICKPENNY: Charles Reginald [*Probationer* 1896]; Breydon House, Lansdowne Road, Bournemouth [*Master*: Mr. Sydney Tugwell].
 TOMSON: Frank Emerson [*Probationer* 1898]; The Châlet, King's Norton, Birmingham [*Master*: Mr. William Hale*].

The asterisk (*) denotes members of the Institute.

The Final and Special.

The Final and Special Examinations, qualifying for candidature as *Associate R.I.B.A.*, were held in London from the 16th to the 23rd November. Of the fifty-one candidates examined, twenty-six passed, and the remaining twenty-five were relegated to their studies. The successful candidates, now qualified (subject to Section 8 of the Charter) for candidature as Associates, are as follows:—

BALL: Theophilus Bradford [*Probationer* 1894, *Student* 1897]; 1, Albert Terrace, Weston-super-Mare.
 BANFIELD: Ernest William [*Probationer* 1894, *Student* 1898]; 15, Penford Street, Knatchbull Road, Camberwell.
 BRUMELL: George, jun. [*Probationer* 1893, *Student* 1896]; Morpeth.
 CAUTLEY: Henry Munro [*Probationer* 1893, *Student* 1896]; 61, Millbank Street, Westminster, S.W.
 †COGSWELL: William Gerald [*Special Examination*]; 28, Theobald's Road, and Wallasey, Chester.
 †CROOK: William Edward Froome [*Special Examination*]; 64 Thornfield Road, Uxbridge Road, W.
 DOUGLASS: Henry Archibald [*Probationer* 1892, *Student* 1897]; 14 Clifton Terrace, Brighton.
 GORDON: Thomas Wallis [*Probationer* 1890, *Student* 1892]; 4 Mansfield Grove, Nottingham.
 GOSLETT: Alfred Harold [*Probationer* 1895, *Student* 1897]; Lime Place, Great Stanmore, Middlesex.
 HARRISON: Shirley [*Probationer* 1897, *Student* 1898]; 7 St. Martin's East, Leicester.
 †HUTCHINSON: Charles Edward [*Special Examination*]; 28, John Street, Bedford Row, W.C.
 MACGIBBON: Alfred Lightly [*Probationer* 1895, *Student* 1897]; 23, Learmouth Terrace, Edinburgh.
 MAYHEW: Robert Henry Jewers [*Probationer* 1897, *Student* 1898]; Edmondsbury, Genoa Road, Anerley, S.E.
 MORGAN: William Vincent [*Probationer* 1893, *Student* 1895]; 24, King Street, Carmarthen.
 OWEN: Reginald Wynn [*Probationer* 1894, *Student* 1896]; 24, Oxford Road, Waterloo, Liverpool.
 PAPWORTH: Alfred Wyatt [*Probationer* 1897, *Student* 1898]; 10, Park Place Villas, Maida Hill, W.
 QUAIL: John [*Probationer* 1897, *Student* 1898]; 105, Warwick Street, Leamington Spa.
 SMITH: Frederick John Osborne [*Probationer* 1893, *Student* 1897]; 7, Old Queen Street, Westminster, S.W.
 TENCH: Edwin James [*Probationer* 1894, *Student* 1896]; 20, St. Andrew's Street, Cambridge.
 THOMAS: Christopher Boswood [*Probationer* 1894, *Student* 1896]; 28, Cambridge Terrace, Hyde Park, W.
 THORP: Norman [*Probationer* 1896, *Student* 1898]; 23, Union Road, Clapham, S.W.
 †TINKER: Henry Archibald [*Special Examination*]; 4, Hornton Street, Kensington, W.
 TURNER: Philip John [*Probationer* 1894, *Student* 1898]; The Acacias, Stowmarket, Suffolk.

WALFORD: William John [*Probationer* 1894, *Student* 1898]; Chesterfield, 214, Anerley Road, Anerley, S.E.
 WELLS: Robert Douglas, B.A. Cantab. [*Probationer* 1898, *Student* 1898]; 13 Porchester Terrace, W.
 WHEELER: Edwin Paul [*Probationer* 1893, *Student* 1896]; 3 Phené Street, Chelsea, S.W.

[† Candidates marked thus † were admitted to the Special Examination, under the following regulation:—"Architects in practice not less than 25 years of age, and chief assistants over 30 years of age, who desire to be admitted as Associates, can be exempted from passing the Preliminary and Intermediate Examinations and from sending in Testimonies of Study. They can be admitted, by resolution of the Council in each case, to a Qualifying Examination (namely, the Final of the three examinations), which is conducted with especial regard to the requirements of such architects, their professional works and position being duly taken into account by the Board of Examiners."]

The following table shows the number of failures in each subject of the Final and Special Examinations:—

I. Design	24
II. Mouldings and Ornament	10
III. Building Materials	5
IV. Principles of Hygiene	1
V. Specifications	4
VI. Construction: Foundations, &c.	3
VII. Construction: Iron and Steel, &c.	3

Ashpitel Prize 1900.—On the recommendation of the Board of Examiners the Council have awarded this Prize to Mr. Shirley Harrison, and extra prizes of Five Guineas each to Mr. C. H. F. Comyn [A.] and Mr. C. E. Varndell [A.].

MINUTES. III.

At the Third General Meeting (Business) of the Session, held Monday, 3rd December 1900, at 8 p.m., Mr. E. A. Gruning, *Vice-President*, in the Chair, with 25 Fellows (including 12 members of the Council) and 28 Associates (including 2 members of the Council), the Minutes of the Meeting held 12th November 1900 [p. 48] were taken as read and signed as correct.

The Chairman, having announced the decease of Henry Currey [F.], *Vice-President* 1874-77 and 1889-93, and Francis Chambers [F.], moved, and it was thereupon resolved, that a message of sympathy and condolence from the Institute be conveyed to their nearest relatives.

The Hon. Secretary having announced the receipt of various donations to the Library [see SUPPLEMENT], a Vote of Thanks to the donors was passed by acclamation.

The following members, attending for the first time since their election, were formally admitted, and signed the respective Registers, viz. Frank William Wills, *Fellow*, President of the Bristol Society of Architects; Arthur Henry Ough, *Associate*.

The Secretary announced that by a resolution of the Council under By-law 20, the following had ceased to be members of the Royal Institute: William St. John Hu Hancock, James Barlow Fraser, John Treadway Hanson, and George Highton, of the class of *Fellows*; Robert William England, Thomas Henry, George Vigers, Ernest Outram Cummins, Patrick James Jervis Fay, William Frame, Edward Francis Roberts, and William Vaughan, of the class of *Associates*.

The lists of candidates who had passed the November Preliminary and Intermediate Examinations were brought up, and the Meeting agreed to take them as read [see p. 57.]

The Secretary read the names of candidates who had passed the November Final and Special Examinations [see p. 60].

The following candidates for membership in the various classes were elected, by show of hands, under By-law 9, viz. :—

As FELLOWS (6).

LOUIS AMBLER [A. 1888].
THOMAS PHILLIPS FIGGIS [A. 1889].
HERBERT GEORGE IBBERSON [A. 1889].
EDWARD JEAFFRESON JACKSON (Sydney, N.S.W.).
CHARLES EDWARD MALLOWS (Bedford).
JOHN WILLIAM SIMPSON [A. 1882].

As ASSOCIATES (21).

SAMUEL CHESNEY [Probationer 1892, Student 1895, Qualified 1900] (Stourbridge).
GEORGE EDWARD CLAY [Probationer 1890, Student 1894, Qualified 1900] (Warrington).
CHARLES HEATON FITZWILLIAM COMYN [Probationer 1895, Student 1898, Qualified 1900].
HAROLD COOPER [Probationer 1896, Student 1897, Qualified 1900] (Blackburn).
CHARLES ARCHIBALD DAUBNEY, P.A.S.I. [Qualified 1900, Special Examination].
WILLIAM ERNEST EMERSON [Probationer 1895, Student 1896, Qualified 1900].
JAMES ERNEST FRANCK [Probationer 1893, Student 1897, Qualified 1900].
ARTHUR REGINALD GROOME [Probationer 1893, Student 1896, Qualified 1900] (Manchester).
HERBERT HAINES [Probationer 1893, Student 1895, Qualified 1900].
EMANUEL VINCENT HARRIS [Probationer 1893, Student 1897, Qualified 1900].
JOHN STANLEY HEATH [Probationer 1895, Student 1897, Qualified 1900].
WILLIAM BONNER HOPKINS [Qualified 1893].
PERCY ERSKINE NOBBS, M.A. Edin. [Probationer and Student 1897, Qualified 1900] (Edinburgh).
SIDNEY VINCENT NORTH [Qualified 1900, Special Examination].
CYRIL WONTNER SMITH [Probationer 1893, Student 1897, Qualified 1900].
WILLIAM HERBERT SWANN [Probationer and Student 1899, Qualified 1900].
ALEXANDER SYMON [Probationer 1898, Student 1899, Qualified 1900].
ANDREW MITCHELL TORRANCE, Jun. [Probationer 1893, Student 1897, Qualified 1900].
ROBERT PERCIVAL STERLING TWIZELL [Probationer 1897, Student 1898, Qualified 1900]; Newcastle-on-Tyne.
CHARLES EDWARD VARDELL [Probationer 1896, Student 1899, Qualified 1900, Grissell Prizeman].
CLYDE FRANCIS YOUNG [Probationer 1895, Student 1898, Qualified 1900].

As HON. ASSOCIATE.

EDMUND WILLIAM SMITH, Memb. Roy. Asiatic Soc., Archaeological Surveyor to the Government of India, N.W. Provinces and Oudh Circle, and Curator of the Lucknow (Government) Museum, Oudh.

As HON. CORRESPONDING MEMBERS.

JOSEPH ANTOINE BOUVARD, Director of the Architectural Works of the Paris Exhibition, 1900 (Paris).
L. C. PEDRO D'AVILA, Hon. Architect to the King of Portugal, Architect to the Government, Member of the Royal Academy of Fine Arts, Lisbon.

The Chairman stated that he had been requested by the President to announce that he (the President) had been

desired by the India Office to assist the Government in the appointment of Consulting Architect to the Government of Bombay, and that the President would be glad to receive applications from members desirous of offering themselves as candidates for the post [see SUPPLEMENT].

The Chairman having referred to the further business on the notice-paper—viz. the motion for the adoption of certain amendments to the Form of Agreement and Schedule of Conditions for Building Contracts, as agreed upon between the Council of the Royal Institute and the Council of the Institute of Builders—stated that the Council, in consequence of representations made to them, had decided to postpone consideration of Clause 32 in order to consider it further, and that they would bring the clause forward at a future meeting. The Chairman then proposed the discussion of the other clauses *seriatim*, and the adoption of Clause 1 having been moved and seconded, in the course of discussion it was pointed out that as that clause contained a reference to the new Clause 32, the Meeting could come to no definite conclusion upon it: whereupon the Chairman invited an expression of the views of the Meeting upon Clause 32, and various members having discussed its provisions, the Chairman stated that the opinions thus expressed should have due weight with the Council in their reconsideration of the Clause [see APPENDIX].

The proceedings then closed, and the meeting separated at 9.35 P.M.

APPENDIX.

AMENDMENTS TO THE FORM OF BUILDING CONTRACT.*

Discussion.

The CHAIRMAN, in opening the discussion, stated that he had to announce that the Council, in consequence of representations made to them, had decided to postpone consideration of Clause 32 in order to consider it further, and to bring the clause forward at a future meeting. For the present he proposed that the Meeting should consider the other amended clauses, taking them *seriatim*, clause by clause.

The CHAIRMAN then formally moved the adoption of Clause 1 as amended.

The HON. SECRETARY seconded.

Mr. WILLIAM WOODWARD [A.] said that if Clause 32 was not to be discussed, the Meeting would be debarred from expressing its opinion on the most important matter connected with these amended Conditions. The history of these Conditions was pretty well known to every member of the Institute. The matter had occupied their attention for something like twenty years. He could never understand why an attempt had ever been made to alter the Conditions which were mutually agreed to by builders and architects in 1882. At the time of the issue of these new Conditions of Contract which were now proposed to be amended, he had stated in that room that no respectable contractor would ever be found to sign them. That statement had been demurred to by Mr. E. T. Hall, whom he regarded as the leading spirit in bringing about the new Form of Contract; now apparently it had turned out that no responsible first-class contractor would have anything to do with those conditions. Mr. Woodward then went on to discuss the amended Clause 1, of which the adoption had been moved, and proposed that the word "reasonable" in line 2 should be omitted. The word meant nothing. What the architect would consider reasonable the contractor would, of course, consider unreasonable, and difference would at

* The clauses as they stand in the present Form, and the same clauses as proposed to be amended, are set out in parallel columns in the *Supplements* to the JOURNAL, Nos. 1 and 2.

once arise. Further on, the Clause said, "He shall, before proceeding with such work, give notice in writing to this effect to the architect;" and "In the event of the architect and contractor failing to agree as to whether or not there is any excess, and of the architect deciding that the contractor is to carry out the said work, the contractor shall," &c. If a builder could be found to sign such a condition as that, he could only say that he (the builder) would deserve all that might arise from it.

The CHAIRMAN stated that the clauses, as amended, had been agreed to by the Institute of Builders.

Mr. WOODWARD said he was aware of that, but he was looking at the matter fairly, on behalf both of builder and architect. The clause stated: "If the work shown on any such further drawings or details, or necessary to comply with any such instructions, &c." Take stone work, for instance. The only way in which the builder, and the architect too, could find out whether the full-size details were or were not in excess of the contract was by the same careful process which had been gone through by the quantity surveyor. With regard to girths of cornices again, the same process must be gone through, because the stonework was in so many feet cube, and the cornice in so many feet superficial. Was it therefore to be expected that the architect should take the trouble to find out whether or not the quantities supplied were or were not in excess of the contract? He would suggest in regard to these quantities that instead of stopping the work—because these questions meant absolute stoppage of the work, inasmuch as both architect and builder must satisfy themselves that these matters were not in excess of the contract—the question as to whether or not it was in excess should be left to the final settlement of the accounts. Then four or five lines from the end the clause said: "The Contract Drawings and Specification shall remain in the custody of the architect," &c. He suggested that the words "the property" be substituted for "in the custody," so that the clause read: "The Contract Drawings and Specification shall remain the property of the architect."

The CHAIRMAN explained that such a stipulation in the contract would be contrary to the law of the land.

Mr. T. H. WATSON [F.] seconded Mr. Woodward with regard to the omission of the word "reasonable." The word was implied. It must be the reasonable satisfaction.

Mr. E. W. HUDSON [A.] said that if the word were implied there was no reason why it should not appear in print.

Mr. T. M. RICKMAN [A.], rising to order, and referring to the Chairman's statement that the Council had decided to postpone consideration of Clause 32, pointed out that in Clause 1 there was a reference to Clause 32, and he did not see how they could discuss Clause 1 until they had Clause 32 in its final form before them.

[Ultimately, it having been suggested that the views of the Meeting on Clause 32 might be obtained and laid before the Council when they were reconsidering the clause, it was agreed to postpone consideration of the other clauses and restrict the discussion to Clause 32, it being understood that members should confine themselves to an expression of their views on the new clause, and refrain for the present from moving any amendment.]

Mr. J. DOUGLASS MATHEWS [F.] said that as Chairman of the Practice Committee he had come prepared to move an amendment to Clause 32 on behalf of his Committee, but, in deference to the wish of the Council, he would not then bring forward his amendment, but simply offer a few observations on the new clause. The question depended upon whether the reference was to take place "after the work is completed," or "at any time during the progress of the work by the request of either party." This matter was by no means new, as it was considered by the Practice Committee some six or eight years ago in their negotia-

tions with the Institute of Builders, and over and over again discussed, and ultimately it was decided that, although they regretted that the Institute of Builders could not agree to that clause, it was so important that the Institute of Architects could not give way, and, under the circumstances, the forms of contract were printed, and had been in use ever since. It would, he thought, be desirable for the meeting to know in what way this suggestion had originated: whether the Institute of Builders approached the Council of the Institute, or the Council of the Institute proposed a conference with the builders.

The CHAIRMAN said he would explain the matter as far as he could. It would be recollected that the Heads of Conditions issued in 1880, and afterwards in use for many years, were agreed to by the builders and architects both. About the year 1890 the Practice Committee undertook the preparation of a new form of contract, but, unfortunately, friction arose between them and the Committee of Builders whom they met. Ultimately, in 1895, the Institute adopted the form now in use, which was not approved of by the builders. In 1898 a communication came from the Institute of Builders to the Council asking whether a modification of this form could not be arrived at which would be satisfactory to both parties. The Institute Council thereupon appointed a Special Committee to meet the builders and discuss the matter. The Committee consisted of Mr. Emerson (then Hon. Secretary), Mr. Aston Webb, Mr. Blashill, Mr. Slater, and himself (Mr. Gruning.) Later on Mr. E. T. Hall was invited to join the Committee; and later on still, when Mr. Emerson became President, Mr. Graham joined it as Hon. Secretary of the Institute. The Committee had held eleven long meetings, at two of which delegates from the Institute of Builders were present. As the result of their deliberations, a report was made to the Council in October last, which the Council adopted. At the meeting of the Council held that day representations from various quarters having been made of objections and amendments, particularly to Clause 32, the Council decided that it would be better not to force a decision on the Institute at that meeting, and with that view he had been instructed to say that the Council wished the consideration of Clause 32 to be postponed.

Mr. DOUGLASS MATHEWS thanked the Chairman for giving them these particulars, and said that everybody would be agreed that it was most desirable, if they could, to get a form of contract which would be received by both the architects and the builders. But would the alteration in Clause 32 be likely to bring about that result? The clause was one of such importance that they must be very careful before giving it their assent; if passed, it might be a very serious matter for architects, not only in relation to their clients, but to their buildings in general. The Council had not told them whether there was any great necessity for the proposed change. He knew that the Institute of Builders had made objections to the form of contract, but he was not aware that it had interfered in any way with the carrying out of very many large works by members of the Institute of Builders. Coming to the objections of the Practice Committee, they were these: first of all, the position of the architect was most seriously interfered with. They had always taken to themselves the credit of being a body of honourable men whose business it was to act in a kind of semi-judicial manner between the employer and the contractor, and trusted by both. If, however, this clause were carried into effect, the architect would come to be looked upon as a servant by the employer, and an autocrat by the builder. The position of the architect, being that of a fair-dealing man who would settle questions as they arose between one and another, would be taken away, because each party would have an opportunity of applying to an arbitrator at any time. The builder too, he thought, would suffer quite as much

as the employer, because questions must occur between the builder and the employer; and the architect should settle all differences as they arose. Another point was that the architect would no longer have control of his work during its progress; he must be superseded, or, if not superseded, must be subject to some other architect, it may be one of less experience than himself. At any rate, he would be liable from time to time to have all questions referred to some other than himself to decide. Again, if an arbitrator was to be called in at every difference, where did the architect's responsibility to the client come in? At the present time the architect was responsible to his employer; but if his position was to be constantly questioned, it would be a very simple thing for the architect to shift the responsibility on to the arbitrator, and if anything went wrong the employer would have no remedy at all; the architect would say at once: "I required such and such a thing, but the arbitrator took a different view, and therefore my responsibility ceases." Then another point: the clause states that the works should not be stopped pending the reference. It was well known what the effect of that would be. It was quite impossible to call in an arbitrator at any moment, and if these arbitrations were constant (as he assumed they would be), there must be days, or perhaps a week, or even more, from the time of giving notice to the arbitrator before getting his award. The work would therefore be most materially delayed by circumstances over which neither the employer nor the contractor would have control. Many of them were old enough to remember that the system of building and the relation of builder and architect were different from what they were, say, 20 or 25 years ago; that the architect was then in personal communication with the builder, and the builder, feeling that his credit was often at stake, was quite willing to put right what the architect complained of as being wrong. But what is the case now? Architects seldom saw the contractor, and, in nine cases out of ten, if they did see him, he knew but little about the work, so they were practically in the hands of a foreman or the builder's clerk. Consequently, under these circumstances, friction must frequently arise. Naturally a builder would take the report of his own employé. Without perhaps knowing all the circumstances, he would say "We cannot have this," and therefore arbitration would ensue. That would put the architect and contractor at loggerheads, and if this began at the commencement of the job, the result would be particularly unhappy to everybody concerned. Then if the contractors appealed to arbitration, architects would be bound to do so in the interests of their clients whether they liked it or not. The contractor would do it to justify himself and see that he was properly paid for his work. On the other hand the architect would take great care that every requirement of the drawings and specification was fully carried out—carried out not in the spirit but to the letter, and they all knew that it was a very difficult thing to get work executed in such a way that they were absolutely satisfied, and had not some cause for complaint. Another objection was that the employer must be made acquainted with every difference that arose between the architect and the contractor. He did not think that would help the architect much. The employer would soon tire of that kind of thing, and would want to know where the architect came in, and of what use he was. Again, architects themselves would be in a very awkward position; they would feel the responsibility of insisting upon all that they required. Architects sometimes make mistakes, and it is not likely that every arbitration would be decided in their favour, and then would come the question as to who was to bear the cost of the arbitration. It would be only natural for employers to say, "We look upon you as a competent man. Why did you make these assertions if they were not correct?" and it would be a not unnatural thing for

him to say, "If you make these assertions, and if you are wrong like other people, you must pay for it." For himself he could not see the necessity for this clause. Contractors often say, "We know Mr. So-and-So, and it does not matter what contract we have; we are in his hands and we know we are safe, therefore we trust him, no matter what the conditions are." That was a satisfactory sort of arrangement which did obtain, and he hoped would continue to obtain for a great many years to come. He did not see that it need interfere with the contract whether the clause was in or out. It would make no difference to respectable contractors and respectable architects. But if a contractor could not trust the architect, or felt that he was not competent, it was an easy matter for him to say, "No, I will not take this work unless I have this arbitration clause put in." That gave him an opportunity of having it inserted. Then the employer would be told the nature of the requirement, and it would be for him to say whether he would give up the objection or not, as he pleased.

Mr. WILLIAM WOODWARD endorsed all that Mr. Douglass Mathews had said in reference to Clause 32, but wished to emphasise one particular point to which he took exception. He maintained that the Council of the Institute was not acting in the best interests of the profession when it proposed to leave to arbitration that which in the old conditions of contract was not left to arbitration—viz., the absolute control of the architect over materials and workmanship. He could quite understand that the builders would agree to any contract which provided such an arbitration clause as that. The arbitration clause left open everything that could occur during the progress of the works. Imagine the result. The architect goes on the building and condemns the bricks; the contractor at once says, "No; I believe those bricks are excellent bricks, I shall not move them from the job." Arbitration must then ensue. To be brief, he would suggest that Clause 16 be added to the exceptions—that is to say, the architect retaining his full power under Clause 32 with regard to materials and workmanship.

The SECRETARY, in reply to a question, stated that the yearly sale of the present form of contract amounted to between three and four thousand copies a year.

Mr. MACRICE B. ADAMS [F.] said that gave them a fairly good idea of the number that were in use. Personally, he had found the form most useful, and he had been readily able to induce clients, both District Councils and private gentlemen, to adopt these conditions without question because they emanated from the Institute. But if this arbitration clause coupled with Clause No. 1 was to be carried, he could not possibly agree to adopt the amended form himself. Therefore every argument he could bring to bear upon the Council would be decidedly in opposition to this clause being carried. Members could only judge of these things as they appeared to them, and persons in ordinary practice must confirm what he had said, that such a clause as this might prove to be simply fatal in dealing with a builder of whom one previously knew nothing. There were some builders with whom he would not mind personally what the conditions were, because he had worked amicably with them, and had never had the slightest hitch, having been on some occasions even able to settle all variations without calling in the quantity surveyor. But there were other persons with whom he had had quite a different experience; and life would be perfectly dreadful if the architect had the bogey of an arbitrator held over his head every time he felt it to be necessary in justice to his clients to put his foot down and say that he meant to insist upon exactly what had been bargained for. He had been told by persons who ought to know that this new clause was simply one of money, and that where money was in question, there an arbitrator ought to be available. If those who took that view could

explain exactly what they meant he should be glad, because he quite agreed that on questions of money there must, as at present, be the provision for a reference.

The CHAIRMAN stated that so far as he knew no question of money had ever been considered by either the Committee or the Council in connection with this clause.

Mr. MAURICE ADAMS agreed that he did not see it from that point of view at all. Therefore he was bound to exercise what little influence he might have in urging the Council to reconsider this clause. From what the Chairman had said he supposed it was impossible for this matter to go before the Practice Committee again. Friction seemed to have arisen which induced the Council to adopt another course on the present occasion, and to constitute a Special Committee to confer with the builders. But the Practice Committee was elected by the general body; and if there was a question which that Committee should discuss he ventured to think it was such a question as this. Judging from his own practice, he said most emphatically that this clause would be most detrimental not only to the interests of architects, but also to those of the public, because instead of having one architect on a job they would have two; and the expenses entailed in continually debating every trivial circumstance would be something considerable. He had been on several arbitrations as a witness, and had been astonished at the time wasted, first by one side and then by the other discussing the value of mere items. Money was spent beyond all comparison with the question at issue, whereas if it was left to the architect the whole responsibility was on his hands, and if he did anything absolutely wrong he ought to be brought to book for it; but if they divested him of his responsibility the client would undoubtedly find himself involved in all kind of difficulties. He would have the arbitrator one day and the architect the next, and the builder would be playing all sorts of games in the meantime. As a matter of fact, it was only with the sharp builder, the commercial gentleman who scarcely knew anything about the trade at all other than what would pay, that they had all the trouble—not the good old-fashioned builder, or the builder working on the good old-fashioned lines, who did his utmost to give the best value for the money. There were a great many persons who looked upon an architect as a luxury, and if they could possibly carry out a building without his assistance they did so; and if countenance to this notion was given by introducing unduly the official arbitrator, thus continually creating friction, he thought it would be very detrimental to the public and also to the profession, and from that point of view also he should oppose it.

Mr. HUDSON asked to be allowed to call attention to another point about Clause 1 which was affected by Clause 32 to a considerable degree—viz., with regard to the builder calling attention to the fact that the further drawings or details involved more work than was contemplated by the contract. It would be interesting to know what was the practice of her Majesty's Office of Works with regard to those drawings: whether there was such a clause in their contracts, and, if so, whether it was open to the contractor to question the decision of the architect, if he were allowed to decide in the first instance whether there was any extra or not; and whether, if that was done, the architect had any appeal to arbitration under the old Act and its statutory modification.

Mr. HENRY TANNER [F.], of H.M. Office of Works, said that on that point he thought the only question for arbitration was one of money. The architect settled those things, and if he considered it a proper thing to be done under the contract, it was done, and the builder could bring his claim at the end of the contract.

Mr. T. M. RICKMAN [A.] said he had for a number of years taken a great interest in this subject, and he understood that the only open question between the Institute of

Builders and the Royal Institute of British Architects was as to whether there should be an arbitration, if necessary, in the course of the contract. When he read the substituted clauses that were proposed by the Council, and when he gathered from the notice-paper that those clauses had been actually agreed to by the Builders, he was greatly rejoiced, because, though the clauses as they at present stand were about as cumbrous as they could be drawn, he thought that they did carry out some method of adjusting the difficulty between the architects and the builders with regard to this much-disputed question as to whether there should be an arbitration in the course of the work. One great difficulty there had been in the use of the Conditions of Contract was this, that, though they might get a perfect set of Conditions, each case had to have the Conditions to a certain extent varied in order to suit the particular circumstances of the contract; and in settling and in signing and completing a contract based on the Conditions put forward by the Institute of Architects there had not been the care taken to alter such clauses as were necessary in order to make the contract exactly suitable to the building that was to be erected and the circumstances under which it was to be carried out. There had been a variety of cases before himself as arbitrator in which he had found that great difficulties had arisen because the various blanks in the Conditions of Contract had not been properly filled in and the circumstances of the case had not been considered. In an ordinary contract he doubted whether it was ever necessary to have an arbitration in the course of the work. In the case of a large contract it was of great importance that there should be an arbitration if the necessity for it occurred. To prevent either the contractor or the client through his architect from having an arbitration which would settle some important question as it went on, would, he thought, be a very great mistake, and he could not understand the objection so many architects had to the proposition that there should be, if necessary, an arbitration in the course of the work. It seemed to him that the machinery devised by these substituted clauses which the Council had proposed was very good, though, he thought, it was very cumbrous. If these Conditions as altered were actually agreed to by both architects and builders it would be very desirable indeed for the Institute to accept them. [Various members: No, no.] But he was surprised that they should have been agreed to by the architects, knowing, as he did, the strong feeling that existed on the part of many now present and others that he knew; and he was also surprised that they had been agreed to by the builders; but as he thought the arrangement proposed was a reasonable one for carrying out an adjustment of the difficulty between the two parties, he was very pleased to find that such a thing had been proposed. As regards the form of the Arbitration Clause, and dealing with these excepted Clauses 4, 9, and 19 which were put in brackets, he thought it was an unfortunate method of treating them. It would be far better to omit the exception of those clauses and the words within brackets and to transfer such exception altogether to the end of the Arbitration Clause. That, however, was a mere matter of form. He had hoped that the Council of the Institute would have come forward with an explanation of the circumstances and of the arguments which had brought about the proposition which he thought was going to be placed before them. As the proposition had been withdrawn with regard to the Arbitration Clause, he felt that it would not be reasonable to enter into detailed criticism of that clause until they knew what the Council proposed to put before them, and until they could be absolutely certain that if they agreed to it the builders would adopt it.

The CHAIRMAN stated that the builders had agreed to the clauses as put forward.

Mr. RICKMAN hoped that when the Council again brought up the revised Conditions they would put forward

the reasons that had prevailed with them and with the builders.

Mr. ROWLAND PLUMBE [F.] thought that the revision of Clause 32 as put forward was an unreasonable revision, and for this reason: They had a Building Agreement that had been prepared with the greatest care, and which had been adopted after years of hard work. It was an Agreement which was accepted, he might say, so far as he knew, by the whole of the profession; and it was accepted by the whole of the building trade, except by those gentlemen who happened to be high in office in the Builders' Institute, who could not reasonably do so; and he thought it was an open secret that even some of these gentlemen had not objected to sign the contract which the Institute had sanctioned, with some slight alterations. He was convinced that if this revised edition of Clause 32 were passed it would lead to a policy of obstruction and delay. An architect could not consent to have an arbitrator coming on his works every week at the instance of a litigious builder, to raise questions which would result in the building never being finished, and in the building costing a fabulous sum of money. Then again, as other members had said, this revision would take away the proper position of the architect. The architect was paid for superintending the work and for taking the responsibility. If he were going to call in an arbitrator at every stage of the work, he would become a mere puppet, and would be paid for work which he was not doing. Such a state of things would be distinctly detrimental to the interests of the profession. He could claim a long standing as a member of the Institute, going on to nearly forty years, and during that time he had had the privilege of carrying out a considerable amount of work; and he could only say that if this revision were accepted, it would be thoroughly bad practice and against all precedent. In his opinion and experience the revision was altogether unnecessary. The present Form of Contract worked well, and they were willing to abide by it. He hoped that whatever happened the Council would carefully reconsider this matter, because he felt sure that the profession at large were against it. By the profession at large he meant the profession of practising architects who experienced the present difficulties of carrying out buildings, and who had no desire to add to them. The proposed revision would play into the hands of a class of men whom he would call unworthy litigious financiers; men who were not builders at all; men who knew nothing about building; men who simply came in with a certain amount of money, posed as builders, and employed a large number of men in their offices, such as surveyors, managers, prime cost clerks, and ledger-clerks, &c., and whose object was to obstruct and to do all they could to upset the contract, and, if they could manage it, to rake in as much profit as they could out of the disorder and muddle. This new clause would not help the really good builder, whom they all respected and admired and regarded, and worked with; but it would help the other class of man whom they did not want to help. He should like to be allowed to make one recommendation. He would suggest that the Council should draw up a short form and send it round to members of the Institute, asking them to record their opinion as to the benefit of, or as to their objection to, this clause. If this were done, the hands of the Council would be greatly strengthened, because he was sure the Council would never attempt to do anything that was adverse to the general opinion of their members.

The CHAIRMAN said he would bring Mr. Plumbe's suggestion before the next meeting of the Council.

Mr. ROWLAND PLUMBE, continuing, said he should like to add a word of warning. He believed that the majority of practising architects would never use this form if it were brought out. Architects would ignore it altogether, and he begged the Council not to place themselves in such a position as that. Members were quite satisfied with the

old form. He had come prepared to submit a motion, but as under the circumstances that would be out of order, he would ask permission to read it, so that the Council might take it into consideration. It was as follows: "That this meeting does not approve of the proposed revision of Clause 32 of the existing form of contract used by the Royal Institute of British Architects, and urges the President and Council to continue to use the clause as now existing in its entirety."

Mr. C. H. BRODIE [A.] hoped that although the meeting might succeed in overthrowing Clause 32, it would not succeed in overthrowing the valuable amendments of some of the other clauses. There was one he noticed particularly, because it had been brought before the Practice Committee very specially, i.e. that the present Conditions of Contract did not force the contractor to carry out any works at all. The new clause had amended that, and it was desirable that it should not be lost sight of.

Mr. J. OSBORNE SMITH [F.] observed that the discussion on Clause 32 pointed to a weakness in the consideration of these questions by architects at all. They had prepared a form of contract, and it had been in circulation for a long time, yet, when it came to practical use, it was found in a most important particular to be utterly useless. The provision referred to by Mr. Brodie had never been omitted from any contract he had had to do with; and he had been much surprised at the case brought before the Practice Committee, where a man had used the Institute form of contract, and had found himself in difficulties in consequence. That case, together with what had transpired at the meeting that evening, pointed to the fact that it was unwise for architects to attempt to do lawyers' work. They might afford the lawyers some guidance, but they could not themselves formulate a set of conditions which would fit all cases. He agreed with the remark of Mr. Rickman, that every contract, no matter what the form, required to be amended and adapted to suit the particular circumstances of each case. It would, he thought, be a serious infringement of their rights as individual members if the Council were to stamp with their mark a hard-and-fast form of contract, set forth as adapted to suit all conditions and cases. He had in mind many cases where it would be extremely unsuitable. In fact that very day its unfairness had been pointed out to him. When he had asked a builder to sign a contract, he said, "Yes, I will sign this, because it is fairer than the printed form."

Mr. WOODWARD pointed out that there was no obligation to use those conditions at all. Personally he never used them. He had his own reprinted.

Mr. H. HARDWICKE LANGSTON [A.], referring to the last part of Clause 17, said it seemed to him that the contractor ought to be defended against himself. The provision was: "Should any defective work have been done or material supplied by any sub-contractor employed on the works who has been nominated or approved by the architect, the contractor shall be liable to make good in the same manner as if such work or material had been done or supplied by the contractor." Could they as sensible men admit that it was fair to the contractor to be bound down under such a manifest absurdity? The sub-contractor ought to be responsible to the employer, the man who had to pay for the work, and to the architect who ordered it to be done.

The CHAIRMAN replied that it was not an absurdity, nor was there anything wrong about such a provision. The builder, with his own consent, employed a specialist, and he received the profit on that specialist's work.

The discussion concluded, the CHAIRMAN said that he was sure the Council would take into serious consideration everything that had been said at the meeting that evening. They would then come before the General Body again, either to uphold this proposition or to substitute another one.

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A NEW SYSTEM OF PRACTICAL PERSPECTIVE FOR ARTISTS AND ARCHITECTS.

By Cav. SETTIMIO GIAMPIETRI [*Hon. Corr. M., Rome*].

THE object of the present treatise is to provide artists with short and practical rules for drawing the apparent form of objects.

By the rule which I propose there is no need of either plan or elevation of the object to be drawn, and the whole operation can be worked out within the space of the paper or canvas, if to the right and left of the canvas two laths, or similar appliance, be fixed at the height of the horizontal line, to carry those points to which certain given lines tend.

The treatise being written for those who have already some little knowledge of the subject, I pass over the principles and nomenclature of perspective in order to avoid unnecessary repetition.

Plate I.*

The spectator determines the height at which he is to stand, the distance between himself and the object or objects at which he is to look, and the direction of his glance. He can place himself at a greater or lesser distance, but the distance must always be greater than the vertical or horizontal dimensions of the object, so that his glance can take it all in. Finally, he can direct his visual ray to any point of the object at which he is looking; but, for certain æsthetic reasons, this point will always be found at the height of his eye, so that the movement of the eye will be in a horizontal direction only—that is, to the right and left—and not up and down. If it were otherwise the vertical lines would extend to a point above the horizon if the eye were directed to a point above the natural horizon, and to a point below if it were directed below the horizon.

This being granted, we can fix at pleasure the height of the horizon, the distance, and direction of the eye, which must be able to take in conveniently the whole of the object; wherefore the eye must be directed towards it, the horizon not too far removed, and the eye must always be at a greater distance than the greatest dimension of the object which is to be drawn. These three data are the starting-points of all the movements which the lines can make in their apparent positions.

The right angle contained by two lines drawn through the foot of the spectator in the horizontal plane, and which meet upon the vertical brought down from his eye, although invisible to him, would appear as a right angle—that is, if the direction of his glance is perpendicular to its plane, i.e. if the point of sight is situated on the

natural horizon. Wherefore if, in order to see it, he steps back without altering the direction of his eye, the angle takes a form apparently greater than the right angle; and the further he recedes the more the angle opens, till its two arms gradually coincide with the line of the horizon, both because of the distance and of his position.

From this may be deduced that the greater or lesser apparent opening of the right angle is relative to the distance at which it is seen and to its position with regard to the horizon. This angle can therefore be taken at pleasure in its apparent form, more or less open, and thus its two sides may be more or less inclined towards the horizon. From this apparent or perspective angle we shall, after fixing the height of the horizon and the direction of the eye or point of sight, find the *distance*, the *diagonal point*, two *geometrical points*, and two *vanishing points*.

Working: Plate I.—Let the line A B represent the horizon. On it fix the point of sight C. Then above (or below) the horizon draw the perspective angle G D H, whose sides produced to the horizon will give the two vanishing points E, F. Draw G H parallel to the horizon A B, intersecting the two sides of the perspective angle at the points G, H.

Join the points D, C, cutting G H in I. Bisect G H at the point L, and, with centre L and radius L G, describe the semicircle G M H, of which G H is the diameter. At the point I draw I M perpendicular to G H, and cutting the semicircle G M H at M. Join M H, M G, and the right angle G M H will be the geometric of the perspective G D H. Bisect the right angle G M H by the line M N, cutting G H at the point N. Take any point *e* on M N, and take any points *a* and *b* on the lines M G, M H equidistant from M. With centre H and radius H M describe the arc M O, cutting G H in O. With centre G and radius G M describe the arc M P, cutting G H at P. Finally, join D P, D N, D O, and produce them to meet the horizontal line A B at G' D' G', giving the diagonal point D' and the two geometrical points G', G''. Some of these points will form the starting-point of the visual lines, and others will have the property of determining the foreshortening.

Plate II.

By the process carried out on Plate I. we observe:

First, that (Plate II.) the triangle *adc* is similar to the triangle *Q d B*.

* The plates are given in numerical order at the end of the text.

Secondly, that the geometric triangle abc is similar to the other geometric QMB , having the bases and sides parallel each to each.

Thirdly, that the two triangles QdB and QMB have the base QB common to each.

Placing the point of sight at O , OM would be the distance; but, this being greater than the picture, the point M would be out of the picture, and the working is therefore impracticable, which, if carried out at that distance, would give us the two vanishing points Q, B and the two geometric points G', G and the diagonal point D . These points can be found equally well by working on the apparent angle adc , as we have the same result as if we work on the angle QAB .

The triangle HAC is similar to the triangle $G'AB$, having their bases parallel and sides common; but BG', BA being radii of the same circle, therefore $G'B : HC :: BA : AC$; therefore $HC = AC$. Draw CP parallel to HA , and AP parallel to HC , and NF equal and parallel to AP , also EI parallel to FN and meeting NG' at L . But AC is equal to HC , and therefore AP and FN are equal to AC .

And, as in perspective all parallel lines which are not parallel to the horizon will meet on it at the same point, and, *vice versa*, all straight lines which in perspective meet at the same point on the horizon are geometrically parallel, QA is parallel to QN , AB is parallel to NB , and AG' is parallel to NG' and FG' . Therefore AC is parallel to NE ; and IE, NF , parallels bounded by parallels, are equal, and are parallel to HC , AP . Therefore IE is equal to HC , and the triangles IEN, HCA are similar; therefore they are equal; therefore EN is equal to AC .

Both the theory and practice of this rule are better shown in Plate XVII.

Plate III.

I have deduced from the works of Fontana the rule worked out in the present figure, drawn in chain lines beneath the horizon, though he himself never made use of the properties which he had almost entirely discovered.

If the line AB represent the ground-line, or lower edge of the picture, the geometric square situated beneath that line will be out of the picture, and therefore not on the superficies which the artist has to work upon. The other figure, drawn in lines and placed above the horizon, I have deduced from various authors, but without the geometric points. The distance is represented by OC , greater than the picture, and therefore the point C , the centre of the operation, is necessarily out of the picture.

I will not repeat the working of the dotted figure EHF , because it has already been indicated on Plate I., but consider it here as already constructed.

Working: Plate III.—From the point of sight O raise the indefinite perpendicular OC . Bisect equally PP' at I , and at the centre I and radius IP draw the arc ab , cutting the perpendicular raised on O at the point C . Join CP, CP' , and we have the right angle PCP' . Bisect equally this right angle by the line CD , cutting PP' , and we have the diagonal at D . At the centre P and radius PC describe the arc CG' , cutting PP' at G' , fixing the geometric point G' . At the centre P' and radius $P'C$ describe the arc CG , cutting PP' in G , the second geometrical point.

As we see, these points coincide exactly with those already found with the figure EHF .

To proceed to the working of the other figure, traced in chain-lines below the horizon. At any point L on the ground-line AB draw LM parallel to $P'C$, and on the other side draw the side of the square LN parallel to PC . Complete the square $LMQN$. Join LP and LP' . From the points N, Q, M draw the perpendiculars to the ground-line NR, QS, MT . Join RO, SO, TO . Intersect PL in V and $P'L$ at U . Join VP', UP , forming the other point of intersection X , completing the perspective square drawn from the geometric below. Now, to find the point of the diagonal, draw the line LX , which, being produced to the horizon, will give the point D . Then, to find the two geometric points, at the centre L and a radius equal to the side of the geometric square LM , describe the arc MZ , cutting LB in Z ; and from the same centre and at the same radius describe the arc NY , cutting LA in Y . Join ZU , producing ZU to the horizon, and we have the geometric point G . In the same way, join YV to the horizon, and we have the other geometric point G' .

The same points being obtained by this rule also, it is demonstrated as far as needful.

Plate IV.

In order to draw the apparent form of objects the student must become perfectly acquainted with their real form, and in working they must be considered as transparent, or as if made of glass, in order to account for the parts which are hidden by their opaque volume. As objects show only their superficies we begin by finding their apparent form; therefore, on account of its suitability for our study, we will take the quadrilateral, or figure contained by four sides, perpendicular to each other, and forming four right angles, which in geometry is termed a square.

Working.—Let AB be the height of the horizon determined at will. Determine also the point of sight as at O , and the inclination of the angle ECF . Produce CE, CF to the horizon to find the two vanishing points PP' . Now place the

vertex of the apparent angle at any point above the horizon, and let its sides meet the horizon in the points $P P'$; then continue the process indicated on Plate I., and there clearly described, to find the other points $G D G'$. Through the vertex C draw a parallel to the horizon; on it, starting from C towards the left, mark the geometrical side of the square $C a$. Draw a construction line from a to G' , cutting $C P$ at E , whence draw the visual line $E P'$. Then from C draw the diagonal $C D$, cutting $E P'$ at H . Through H draw the visual $P F$, completing the square in perspective, or as it appears to us.

Now let us suppose that this square is subdivided into four small squares, four rectangles, and a greater square in the centre.

Let us observe that the greater sides of the rectangle are common to the sides of the great square, and the lesser sides are common to those of the small squares. Take the geometrical side of one of the small squares, and mark its length from $C 1$ and $a 2$. Join $1 G'$ and $2 G'$, cutting $C P$ in 3 and 4. Join $3 P'$, $4 P'$, cutting the diagonal at 5 and 6. Join $5 P$, $6 P$ and produce $P 5$, $P 6$, cutting $C P'$ at 7 and 8, completing the figure. Observe that the same result will be obtained by using the geometrical point G . Carry the dimensions $C 1$ to $C 1'$, 1 and 2 to $1' 2'$, 2 and a , to $2' a'$. From these points carry the straight lines to G , $a' F$, $2' 7$, and $1' 8$ to G , which, as may be seen, will give the same result. Either of the geometrical points may therefore be used. Lastly, it may be observed that in this figure the angle $P C P'$ not being very large, little greater than a right angle, the perspective form of the figure appears too near, because the nearer the angle is to a right angle, the less is the distance at which it is seen.

Plate V.

The perspective called parallel (by which the masterpieces of the Cinque Cento are drawn) is simply one of the cases of the rule which I am expounding, and occurs when the point of sight O is exactly between the two vanishing points $P P'$, and is then consequently identical with the diagonal point D .

Working.—The inclination of the perspective angle $P A P'$ being fixed as wished, bisect equally the horizon $P P'$ at O . Join $O A$. Draw $B C$ parallel to the horizon; continue the process indicated in Plate I. to find the other points, and the diagonal D will be found at the same point as the point of sight O . Now having determined the position of the point a , draw the visual lines $a P$, $a P'$; draw an indefinite straight line $f b$ passing through a , and parallel to the horizon, and mark on it the geometrical side of the square $a 1$. Draw $1 G$, cutting the visual $a P'$ at c .

From C draw the visual $c P$. Draw the diagonal $a D$, cutting $c P$ at d , and through d draw the visual $d P$, cutting $a P$ at e , and thus completing the square $a c d e$.

Now from O draw $O f$ passing through e and $O i$ passing through c . Through the points a and d draw $f i$, $g h$, parallel to the horizon, and we shall have the square $f i g h$. And its sides being equally bisected form other four squares together equivalent to the great square, and considering these squares thus formed, $a i c l$, $c h d l$, $l d g e$, and $a l e f$, we see that they have their point of sight and vanishing point at O , and their diagonals $a c$, $a e$, $e d$, $c d$ directed to the points $P P'$. Therefore we have the parallel perspective with the vanishing point at O , and the distance carried on to the horizon from O to P and P' . As may be seen, this is only one case of the general rule which I am explaining. Now from the centre O at the radius $O P$ describe the semicircle $P F P'$, and draw $O F$ perpendicular to $P P'$. Join $F P$, $F P'$, and we shall have the geometrical right angle $P F P'$ of the perspective $P A P'$; its geometric distance being $D F$, equal to the geometric distance $D P$, regarding D as the vanishing point in parallel perspective. Notice also that $D F$ is equal to $D P$ as $P F$ is equal to $P G'$.

To complete the figure produce the visual $P c$ to meet $f b$ at m . Mark the geometric side $a 1$ at $m 2$; draw the visual $m P'$. Join $2 G$, cutting $e n$ at n . Draw the diagonal $m D$. Draw the visual to P , cutting $m D$ at o and completing the square $m n o c$; make $i p$ equal to $i f$. Draw $p O$, and produce $g h$ to give the other square $i p q h$ equal to the first.

Plate VI.

In this plate is given the figure of a stellated polygon, in which, besides the square, we have in perspective the octagon, the stellated polygon, and some lines of circumvallation, which enclose the figure. The geometric figure B is given, the problem for its construction being indicated.

A single geometrical section of it, such as the figure C , is sufficient to give all the necessary geometrical dimensions. In fact we have the projection of the side of the octagon $a b$ in the figure C at 4 5, and the side $b c$ in the diagonal 4 4'. The spaces between the lines of circumvallation are simple spaces between 1, 2, 3, and 4.

Working.—Determine the height of the horizon and the point of sight O , also the position and size of the angle $H A E$; produce $A H$, $A E$ to the horizon to determine the two vanishing points P and P' . From these points continue the process indicated (effacing the unnecessary construction lines) and the diagonal D and two geometrical points $G G'$ will be obtained.

At the vertex A of the angle $H A E$ draw a line

of construction parallel to the horizon. On it set off $A 5'$, the side of the square 4 5, fig. C; then set off on the same line $5' 4''$ the length of the diagonal 4 4', then repeat the side 4 5 at $4'' 5''$. From the points $5' 4'' 5''$ draw construction lines to G, cutting the visual $A P'$ at the points 6, 7, and 8. From these points draw faint visual lines to P. Draw the diagonal A D and we have the points of intersection $i h f$, whence draw the other visual lines to P', completing the figure A 8 1 k. Now on examining the figure B we see clearly that the salient angles are formed by producing the sides of the octagon. Let the octagon therefore be completed by drawing the diagonals of the four squares placed at the angles, which diagonals, if produced till they meet, will give the figure B in perspective. Draw the remaining diagonal in the centre square, and we have the central point g , which is the point of concurrence of all the faint rays, which start from the salient and interior angles in the perimeter of the figure; as, for example, the line l , which passes through the central point g . Next mark the spaces of the figure C 1, 2, 3, 4 on the line A, $1' 2' 3' 4'$. Join these points to the geometrical point G and produce these lines till they meet the prolongation of the visual line A E, and through the points of intersection draw the visual lines to the points P P' and the diagonals (of which one goes to D and the other is found by completing the interrupted line of the perimeter) between the rays which concur at the centre on which the angles of conjunction are outlined.

This is rendered still more easy by observing the direction of the perimetral line of the stellated polygon to which the lines of circumvallation run parallel.

Plate VII.

The last figure serves to some extent as a ground plan for the present one, the solid construction here given being raised on a similar polygon.

By patient analysis it will be found that this method is easier than that of the authors who put forward a separate rule for each case, while we give one rule for everything. The working of this rule will be clearer if we impress on our minds that where one straight line meets the horizon, all the other lines which are geometrically parallel to that line will concur in the same point on the horizon.

Working.—Fix the height of the horizon and the point of sight, O. Determine also the angle $P A P'$ by which the other required points may be found as before. Through the vertex A draw the indefinite horizontal A B. From the same point A raise the indefinite straight line A C perpendicular to A B, and to the horizon. On A B mark the geometrical measurements 1 and 2 from A to

$1'$, 1 and 3 from $1'$ to $2'$, and repeat 1 2 from $2'$ to $3'$.

On the perpendicular mark the geometrical height of the single bodies superposed at 4, 5, and C above the point A, and at 7 below that point.

Careful attention must be paid to the dotted lines, which are here given in full, but of which in future only the intersections will be marked, so as not to repeat what has been already shown. Therefore from the points $1' 2' 3'$ draw construction lines to G, intersecting the visual A P' in the points a, b, c . Draw lines from these points to the vanishing point P, and draw the diagonal A D, and we have the points of intersection n, p, d . Through these points draw the visual lines f, l, m, k, e, d , concurring in the point P'. Draw the diagonal ec ; do the same with the others, fa, ik, bl, mh , producing them to meet the rays which start from the centre E, and passing through the salient and interior angles of the perimeter, as at E H, and we have the plan complete in dotted lines.

The dimensions A 8 being fixed as desired, join G 8 and produce G 8 to meet the continuation of the visual P'A. Through their intersection draw the visual 9 P, which turning between the rays will give the perimeter of the solid stellated figure placed here as a base. Through 9 draw an indefinite perpendicular, on which, from the point D, mark the height A 7, and repeat the process with regard to all the perpendiculars drawn from the salient and inner angles. From the points a, b, l, k, i, h, m, f raise indefinite perpendiculars; from 4 draw a visual line to P', cutting the perpendicular drawn from $a b$ at $a' b'$; draw the diagonal 4 D, and visual lines from 4, a', b' to P, and the octagon which determines the upper end of the prism will easily be constructed. From the centre E raise the indefinite perpendicular axis E F. Draw indefinite perpendiculars also from the points $n' o' p' q'$ on the perpendiculars starting from the points $n o p q$ at the base. Draw the diagonal 5 D, cutting the perpendicular raised on n' at the point n'' . From thence draw visual lines to P P', cutting the perpendiculars on $o' q'$ in the points $o'' q''$ and completing the quadrangular prism.

To construct the superposed pyramid draw from 5 a visual to P', intersecting at a'' the perpendicular raised from the point a of the ground plan.

The base of the pyramid being exactly equal to that of the octagonal prism below, the perpendicular of this prism, if produced, will determine the angles of the base of the pyramid, and the sides will run to the same points where the sides of the two base lines of the prism ended.

To find the height of the apex draw the diagonal C D, cutting the axis E F at x . From x draw $x b'', x a'', x f'', x m''$, and the figure will be complete.

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Plate VIII.

The greater the distance between us and the object at which we look, the greater will be the distance between the two vanishing points $P P'$, and thus one or other, and sometimes both, of these points would be found out of the picture. In this plate the point P would be found out of the picture. If we observe fig. 1 we see that it is sufficient to fix on the margin of the picture one or two narrow pieces of wood, and to continue on them the line of the horizon $P P'$, and the side of the perspective angle $A P$, in order to find the vanishing point P .

When the perspective drawing is finished, the pieces of wood can be removed. This simple method is more practical and more convenient than any other geometrical or mechanical means. Some of the other points may chance to fall upon this continuation of the horizontal line.

Fig. 3 shows the plan of the drawing in perspective fig. 2.

Working.—Determine the angle $P A P'$, the height of the horizon, and the point of sight O , and find the other points $D G G'$. Through the vertex A of the angle draw $A B$ parallel to the horizon, and on it raise the perpendicular $A C$. On $A B$ mark the geometrical measurements of the steps $A-1$, $1-2$, and the projection of the base member $2-3$. Also half the width of the parallelo-piped terminating in a semi-disc, $3-4$; also $4-5$ equal to $4 A$, half the total breadth. On the vertical $A C$ mark the several geometric heights, $6, 7, 8, 9, 10, 11, 12$. Carry the dimensions marked on $A B$ ($1, 2, 3, 4, 5$) to the visual $A P B$ by means of the point G' . Draw the diagonal $A D$, and by drawing lines from the points $A P$ to P' , the intersections $1', 2', 3', 4'$ will be found. From $4'$ draw a diagonal to $5'$, and draw lines from the points $1', 2', 3'$ to P , intersecting the diagonal $4' 5'$ at $1'', 2'', 3''$. From each of these points of intersection draw invisible indefinite perpendiculars, which, as will be seen, will give the heights of the corners. Then the visual drawn from 6 to P will meet the perpendicular raised on the point $5'$, and will give the corner $5''$. The visual drawn from 6 to P' will meet the perpendicular $2''' 3'''$ raised on $2'''$ (which point is obtained by the continuation of the line through $2''$, supposing the width $A 2'''$ is equal to $A 2$); draw the straight line $6 6'$ towards D , meeting the perpendicular raised on $1'$ at the point $6'$, from which draw a visual to P , meeting the perpendicular raised on $1''$, and a visual to P' , which will meet the line drawn from $3'''$ to D at the point $6''$, and so on. Then as $4-3$ would be the geometrical half of the perspective width $a d$, make $10, 12$ equal to $4-3$, and at the centre 10 and distance $10, 12$ describe the quadrant, and bisect it equally in e ; join $e-11$, and draw straight

lines to D from $10, 11, 12$, cutting the perpendicular $3'$ at a, f, b . From these points draw the visuals $b c, f g, a d$; from the point o raise a perpendicular intersecting $a d$ and $b c$ in the points h, l . Join $h b, h c$ intersecting $f g$ in $m n$, through which points draw the semicircular curve in free-hand.

To draw the second similar figure, repeat the diagonal $H Q$, from Q the visual $Q S$, and thence the other diagonal, which gives the visual R and the diagonal $R Q$. The rest is self-evident, the remaining dimensions being given by producing those of the first constructed figure.

Plate IX.

In order to draw a circle in its apparent form, whatever its position, it must be considered as inscribed in a square, in which the axis and diagonals must be drawn; then let it be observed that the curve of the circle cuts the diagonals and touches the points of the axis of the square, thus establishing eight points, as in fig. 1, at $2, 10, 9, 8, 7, 6, 5, 11$; therefore the apparent position of these points must be found, and the curve of the circle drawn through them by freehand.

Working.—From the point A [fig. 1] draw the two visuals $A P, A P'$, and $A B$ parallel to the horizon. Fix the radius of the circle $A C$, and describe the semicircle $A E M$; bisect it equally in E and bisect equally the right angles formed at the centre, and produce the bisecting lines to meet the circumference, the line of bisection $C F$ cutting the circumference at the point F . Project a perpendicular from the point F , meeting $A B$ in H . Repeat the distance $A H C$ from C at $C L M$, and mark these measurements on the visual $A P$ by drawing lines from the points $H C L M$ towards G' , meeting $A P$ at $1, 2, 3, 4$. Draw the diagonal $A D$, and draw lines from the points $1, 2, 3, 4$ to P . Through the points of intersection on the diagonal draw visuals to P , and the points $2, 11, 5, 6, 7, 8, 9, 10$ will be obtained.

Through these points draw the freehand curve. Now, considering the circle as the base of a cylinder whose height is equal to the diameter of the base, in order to obtain the apparent form mark the geometric diameter $A M$ on the perpendicular $A N$; from N draw two visuals to $P P'$ and on $N P$ by means of perpendiculars; from the points $1, 2, 3, 4$ find the points $1', 2', 3', 4'$. By repeating the former process from these points the surbase of the cylinder may be found. To complete the figure join the two extremities of the perspective circles by perpendiculars.

To draw a second cylinder of the same dimensions as the first, and lying on the horizontal plane, determine the geometrical distance from M to B . Draw a line from B towards G' , cutting $A P$ in C [fig. 2]; from C draw a visual to P' , cutting

the visuals produced from 2, 11, 5, 6, 7 in fig. 1. Then, from the same point C, raise a perpendicular. Draw a line from N towards P, cutting the perpendicular on C at E, thus marking the height of A N at C E. From E draw the visuals E P, E P'; raise perpendiculars on the points of intersection of this diagonal, with the verticals to find the points through which the curve of the circle is to be drawn. The apparent length of the cylinder CH may be determined by means of diagonals starting from C, or by repeating it geometrically to the left of B, and foreshortening it from the point G'. The second circle being drawn, the cylinder is completed by joining the two extremities by visual lines, which naturally concur at P. If you want to draw a similar cylinder on the other side, draw lines from H and C towards P', cutting the diagonal A D in H' and C'. Through these points draw lines from P, cutting A P' in C'' and H'' [fig. 3]; the height is found on the perpendicular raised on C'' at its point of intersection with N P'. The process of finding all the necessary points is now easy if the figure be carefully examined, as it resembles the former one. Other methods of putting the circle in perspective can also be used. I give one in this plate, above the horizon, and for that reason the circle appears as seen from below. The curve is more perfect from having a greater number of points through which it is drawn; and as with the faint lines it takes a certain geometrical form, the whole figure is put in perspective by a very simple process. All the other lines would, of course, be considered as lines of construction where the circle only is required.

The geometric or real figure is given in fig. 4, in which the circle *h e g f* is given, and the square *d a b c* is described about it, and all the diagonals here shown are drawn. The points 1 and 2, marked by the intersection of two diagonals, would give the required dimensions; but a similar quarter of this figure will suffice, and this I place beneath A c [fig. 5] to supply the geometrical measurements required for putting the whole in perspective. The horizon being already fixed, the point of sight, and the distance (the latter being determined by the angle P A P' [fig. 1]), take any point A through which from P draw A b', and from P' draw A C'; draw the diagonal D A B. From the same point A draw A c parallel to the horizon. On this line mark the geometrical side of the square described about the circle, and let A c be bisected equally in *d*; on *d c* construct the quarter similar to fig. 4, and project perpendiculars from the points 1, 2 to 1', 2' on the line A c. From G' draw lines through the points *d*, 1, 2, *c* to the visual A b'; through the points of intersection on A b' draw lines from P', cutting the diagonals *d' b'* and *d' B*. Draw the other diagonal C b', and draw lines from P through the intersections of *d' B* to *c' d'*, and through those on *d' b'* to *d' A*. Draw the other axis E c' passing through *d'*. Draw the

diagonals B E, B a', F b', F A, C c', C a', E b', A c'; and through their intersections draw the freehand curve, to complete the required figure.

Plate X.

Richness of architectural detail, though it may display the talent of the designer, is not desirable when it is necessary to illustrate clearly a rule of perspective. The numerous lines of an elaborate drawing, all tending to the same point, are apt to bring more confusion than clearness to the mind of the student, which would not be the case with the fewer lines of a less complicated design, for which reason three simple pedestals are here given.

Working.—Given the height of the horizon, the apparent angle P A P' and the point of sight O, all the required points may be found on the horizon as we know. Through A draw A B parallel to the horizon; mark on it the total width of the pedestal, and the projections of the base moulding, as also of its summit, 1, 2, *a*, 3, 4, and observe that the projection *a* belongs to the base alone, and the others are either common or belong to the cap only. Draw lines from these points towards G', cutting the visual P A. Draw the diagonal A D, and draw lines from the points of intersection on A P towards P', cutting the diagonal A D. The point *f* being thus found, through it draw the visual F f and the square A F f E is found. Draw the diagonal F E: on it mark the apparent proportions of the projections, by means of the visuals.

On the point A raise the indefinite perpendicular A C; on it mark the separate geometrical heights 5, 6, 7, 8, 9, 10, 11. Draw lines from these points to D, meeting the perpendiculars raised on the points of intersection on the diagonals A f, E F, and these meeting points will give the outlines by which the figure may easily be completed.

Then, if a row of pedestals be required (the distance between them being fixed, say, at one and a half the total width of one of the pedestals), from the point E draw the diagonal E H. Through H draw the visual H I. Having drawn from the centre *o* the visual *o* I, draw the diagonal I K. Through K draw the visual K L, meeting P A in the point L. From L draw the diagonal to D, and the ground plan of the square will easily be marked by means of visuals from the first pedestal, the same method being used for the heights.

Otherwise (and this will serve as a proof), mark on A B, to the left of the point 1, one and a half the total width of the pedestal, 18; a line drawn through this point to G' will cut P A in the same point L. For the third and any subsequent pedestal repeat the same process. The rest is clear.

Plate XI.

From the geometrical idea of the profile of a cornice, placed on one side of Plate XI., it is clearly seen that the process for finding its perspective form is the same as that hitherto used. In fact, the plate is turned upside down, so that the line $A b'$ is found below the horizon, and the cornice is seen reversed, its perspective form having been found by the same process as that employed in the preceding plates (and in this position it serves also as a model for the construction of a base). From this the method of putting objects placed above the horizon into perspective will easily be understood.

Therefore, when the rule, already explained and demonstrated, for finding the points on the horizon is understood, the rest is only a fairly simple system of construction by deducing what is required from what is already known; that is, one point helps to find another, and from points proceeding to lines and to planes, the power of representing the apparent form of bodies is easily acquired.

Working.—Through the vertex A of the angle, draw $A b'$ parallel to the horizon, and mark on it the projection $1 a$ at $1' a''$, and the shaft $a b$ at $a'' b'$, with the projection of the architrave $a' c$ at $a'' c'$. From these points draw lines towards the geometric G , meeting the visual $A P'$. Draw the diagonal $A D$, and from the points of intersection on $A P'$ draw lines towards P , cutting $A D$ in $M D F$. Draw the visual $f g$, and the other $d i$; draw a diagonal from g , and the point h will be found. Through h draw the visual $i k$; draw the visuals $d l$, $k l$, and the square of the shaft is found. Through the square and passing through f draw a diagonal, which being produced will give the points $C B$, and from f , d , l , k , i draw indefinite perpendiculars. Now if we draw $1-K$ in the geometric profile, we shall see that this line touches all the mouldings of the cornice, and K being on the axis of the shaft, and its height $b K$ corresponding to $1-11$; mark this measurement on the perpendicular drawn from A , $1'-11'$; draw a diagonal from $11'$, and the point K' will be found, to which the invisible lines $C F$, $A H$, $B E$ are drawn. Then mark the individual geometric heights $1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13$, on the perpendicular drawn from $A-1', 2', 3', 4', 5', 6', 7', 8', 9', 10', 12', 13'$. Draw diagonals from these points to D , cutting $A H$, and the intersections will determine the apparent profile of the capital. From it, by means of visuals, the other two profiles on $C F$ and $B E$ may be found. The projection $a'' c'$ must also be connected with the diagonals at m, n, o ; from m draw a perpendicular to m' , meeting the diagonals drawn from $9, 10, 12$ (to D) and giving the profile $9'', 10''$. Visuals drawn from these points will fix the

profile on the perpendiculars n, n', o, o' . Finally, $13' D$ will give the points $d' k'$, and by drawing the visuals the section will be terminated at l' and i' , and the figure will be complete.

Plate XII.

In order to draw the apparent form of a circular body composed of several mouldings whose curves have their centre in the axis of that body, it is necessary to find the profiles of at least four sections superposed on the axis and diagonals of its plan. By this means we have the advantage of seeing the appearance of all its divisions from the eighth part to the entire body; and supposing, moreover, that it be composed of several masses united in a horizontal and vertical direction, we can also determine the trace of their connection as they would be parallel to the vertical profile, and horizontal to the visuals and diagonals. We therefore give a Tuscan capital, both to show how its apparent form may be found, and also that the mechanism used for obtaining the apparent form of any other body (subject to the same conditions and of a similar nature) may be understood. In this case, also, if the plate be reversed, the capital will be seen upside down, and it will thus be easily understood how to construct a base. With regard to the shape of bodies whose total or partial superficies are curved, the working naturally is somewhat complicated, and it is rendered more so by the complication of mouldings. It will suffice if we obtain a perfect result without any ground plan or elevation, and without the numerous other complications contained in other more splendid but less simple and less perfect works.

Working.—Mark on $A B$ the horizontal dimensions or width of the shaft and the projections; and on $A C$, the vertical dimensions or heights. Carry the proportions of the projections of the curved mouldings $1, 2, 3, 4$, from the centre a (half the total width of the body) to the geometrical diagonal, and by means of perpendiculars from these points of intersection the points distinguished by a small o below $5, 6, 7, 8$ on $A a$ will be obtained. From all these points draw lines towards the geometric G , cutting the visual $A E$. Having constructed the square $A E F H$ (by means of the diagonal $A D$), draw the diagonal $H E$, and through the centre I draw the two axes $L M, N P$. Now draw lines through these points of intersection on $A E$, cutting the diagonals $A F, E H$, and from $1, 2, 3, 4$, only to the axis $L M, N P$. Then from the point I draw the indefinite perpendicular $I Q$. On it, by means of the diagonal D , mark the heights d, e, f, g, h, i, k, l , and we shall have on the vertical axis all the points through which to draw the other horizontal axis parallel to $M L, N P$, and all the diagonals

from D. To find the other diagonals draw perpendiculars from H and E; and on them, by means of the vanishing points, carry the heights d, e, f, g, h, i, k, l ; and $m n$, for example, will be the diagonal which will pass through the point o . This being done, the perspective of the vertical sections made on the diagonals AF, HE, and on the axis NP, LM, will easily be found by carrying all the diagonals and all the axes through the height of the axis IQ, and the required profile will be obtained at their meeting points with the perpendiculars drawn from the points indicated on AF, HE, NP, LM. Nothing now remains but to draw freehand curves through the points which are here strongly marked, and the apparent outline of the several mouldings is determined. As will be seen in the plate, only half the figure has been outlined, in order to allow the method of working to be clearly seen. Nothing has been said of the upper part or abacus, because the method of construction has already been given in a similar operation.

Plate XIII.

I have hitherto supposed and tried cases in which only one perspective angle is found, and when from the points obtained by that angle the apparent form of one or more objects can be found, their lines, however, being respectively parallel. But the case often occurs in which several objects are placed in as many different positions as there are points on the circumference of a semicircle (F, f, e, d, c, b, a, E). For if, for example, a square be held fixed at the angle A, it can, with the opposite point, describe a semicircle determining the various directions of its sides, which are equivalent to the directions which the sides of that square would take if the spectator turned round and the square remained immovable.

Therefore if, with one single perspective angle (finding the similar geometric), we obtain five points on the horizon—that is, two vanishing points, two geometrical points, and one diagonal point—we shall have to find these five points as many times (if required) as we have different positions of the perspective angle. The point of sight O is immovable, and will therefore always be the same; the distance will also be the same, however many differently placed angles there may be; but, as the apparent size of the angle determines the distance, the size of one only can be fixed, however many there may be, the others depending on it.

Working.—We will now find the points of several objects placed in various directions in one single picture.

In order not to complicate the lines in the present plate we will suppose the whole distance to be OA, so that the angles which have their vertex at A are geometrical right angles. The

perspective angle $P'CP'$ being placed as wished, fix the direction of the eye at O. On that point raise the indefinite perpendicular OA. Bisect equally $P'P'$ at X. At the centre X and radius XP' describe a circle, cutting the perpendicular OA at A. Join AP' , AP' and the right angle $P'AP'$ is a geometric right angle. From the centre A (with any radius) describe the semicircle F, f, e, d, c, b, a, E, having its diameter FE parallel to the horizon. Complete the square A, d, g, a, by adding the remaining sides dg, ag to the sides A d, Aa. Draw the diagonal Ag, and produce it to the horizon, meeting it in D'. At the centre P' to the right, and the radius A (describe a circle), cutting the horizon at G', and we shall have the points required for the construction of the cube at the angle C.

In fact, through C draw the horizontal CH and the perpendicular CI; on them mark the geometrical side of the cube. Join H G', cutting CP' in L, and we have CL, the apparent side of the cube. Draw the diagonal CD', and we find the depth M; and these indications are sufficient for the construction of the cube on the diagonal CM. If another equal cube, differently placed, be required, the perspective direction of one only of its sides can be fixed. Let this be $N P^2$. Join $P^2 A$, and on the side 'A b construct the geometrical square, A b h e. Produce A c to meet the horizon, and we have the other vanishing point P^2 to the left. Draw the diagonal A h and produce it to meet the horizon in D². From the centre P^2 and radius $P^2 A$, find the geometrical point G². Through N draw N Q parallel to the horizon, and make N equal to CH. Join Q G², and complete the cube in the same way as the first.

Lastly, fix as desired the direction of the third cube, $R P^3$. Join $P^3 A$. On A c make the square A c l f; continue the process used for the cubes already constructed, and three cubes in perspective, of equal size, but placed in different positions, will be obtained.

A careful examination of the figure now constructed will confirm what has been already explained.

Plate XIV.

It will now be understood that all the visual rays or lines of the normal surface of objects concur at the two vanishing points; that the diagonal bisecting the apparent right angle formed by two visuals determines the other opposite angle, and consequently the square; that the two geometrical points have the property of foreshortening the geometrical dimensions on the horizontal plane; that all these points are derived from the apparent angle in relation to its position on the horizon, and with regard to the point of sight; and, finally, the method of finding these points having been explained, it seems to me that the exercises already given on the appli-

cation of these principles are sufficient to enable everyone to put in perspective any view he may desire.

Plate XIV. contains an interior with curved and straight lines, and anyone who understands it thoroughly will be able by this system to draw any subject, either from life, from fragments, or from his own imagination.

Working.—Having determined the height of the horizon, the point of sight, and the inclination of the perspective angle PAP' , find the diagonal D and the geometrical point G' . Through A draw an indefinite perpendicular AB and Ac parallel to the horizon. On the perpendicular mark the heights Ad (of the arch), de (of the pilaster), and $c7$ equal to Aa (of the steps and block). On Ac mark the breadth Aa (of the pilaster), ac (of the arch), and b (centre of ac). Draw lines from a, b, c to the geometric G' , cutting AP at a', b', c' ; through these points draw indefinite perpendiculars, $af, b'b'', c'n$. From d draw the diagonal dD and the visuals to PP' , and the points $hb''l$ will be obtained. Now draw hP' , and the square d, k, i, h is found. Then from the point l draw the diagonal lm , and the other square formed on it will be obtained. Draw lP' , meeting dD in the point p , and through it we obtain the point q , repeating the diagonals we find r and so on. All the squares thus obtained will give at their angles the corners of the columns, and the springing of the arches and intersections.

Now with the radius dA describe a quadrant with its right angle at d ; bisect the angle equally, cutting the circumference in t , and through the point t project a horizontal line ts . Draw the visual sv , and then the diagonal cb'' , cutting sv in u . Through u draw ux (visual to P') and the diagonal xv , and the square $xuvy$ is found. Then draw all the perpendiculars to the corners of the squares of the columns, and the other squares will easily be constructed equal to $xuvy$, having one angle v common to each. Produce upwards the perpendiculars from the corners of the columns, and on them carry the height of $A d$. Draw the axis $b'P'$ and the diagonal $c'z$, and at z we have the point of intersection of the curves of the diagonal arches; at the angle x the point through which (in this and in all the corresponding points) the curves of the diagonal arches pass; and in the remaining points ly and $lu b'$ the point through which the curves of the arches pass. The process has only to be continued in order to find all the necessary points. The rest is self-evident. To construct the steps (allowing for their breadth to be double the height) from the point 7 , draw the diagonals twice to find the point g , draw gf , and draw on as marked; then for each separate height, 1, 2, 3, 4, 5, 6, 7 draw lines from these points to P , cutting $f7$ at $1', 2', 3', 4', 5', 6', 7'$, through which points draw lines to

P' , producing them to gf , and draw perpendiculars from the points of intersection on gf to find the outline of the steps. It is only necessary to draw visuals through the points of the salient and inner angles to o, n , where the outline is drawn again to complete the flight of steps.

Finally, I consider that the instructions given are sufficient for successfully completing the work.

Plate XV.

Let us now try to draw in perspective a pedestal designed to form part of a small monument. Determine the apparent inclination of the right angle ABC , the height of the horizon DE , and the point of sight O . Produce AB , and BC to the horizon to find the two vanishing points. The geometric point G , and the diagonal point D , will be obtained by the usual process.

On the point B raise the indefinite perpendicular BF , and draw BH parallel to the horizon. On BH mark the widths and projections of the separate modules of that part of the pedestal situated below the horizon, and on the vertical mark the several heights. From the last of these, F , draw FR parallel to the horizon, and on it mark the projections which are situated above the horizon. This division will facilitate the work of drawing clearly the different projections. On BC , by means of lines drawn from the point G , mark the foreshortened dimensions given geometrically on BH . Draw the diagonal BD , and, having completed the square, the remaining diagonal XZ . Draw lines from these points on BC to the vanishing points, thus marking these dimensions on the diagonals. Perpendiculars drawn from these points on the diagonals will give the different projections where they meet the different heights brought to the point D . Now, in order to find the brackets fix the point I anywhere on the lower part of the perpendicular FBI , draw IL parallel to the horizon. Join ID , cutting BC at K ; and from the corner of the shaft where the brackets are fixed draw the perpendiculars, cutting IK at P . Draw the visual PN, PQ . Produce QP to a , join Ga , and produce Ga to meet IL at b . Ib will be the space occupied by the projections. Set off on IL the geometrical measurements of the brackets from b to c . By means of lines drawn to G from these points mark the dimensions on the visual IM , and thence, by lines drawn from the vanishing point, on PN and on the diagonal PK . By the means of the other vanishing point, bring these dimensions to PQ . All the corners marked with black dots indicate the different projections of the brackets by means of vertical lines from them. The projections marked on the parallel $F'R$ must be brought, by means of the geometric point, to the visual $F'S$, and thence to the diagonal $F'T$. By means of the vanishing points these dimen-

sions may be brought to the other diagonal V U, and vertical lines drawn through these points will indicate the remaining projections below.

Plate XVI.

In the Etruscan necropolis of Cære (Cervetri), the Agylla of the Pelasgians, is a tomb known as the tomb of the Pilasters, which may give us the idea of the Etruscan houses and temples. Its pilasters are most original in form, and the whole interior, in its archaic simplicity, contains the real germ of perfect beauty. A drawing of the internal structure can easily be made from the measurements (which were taken under difficulties, the floor of the tomb being covered with water and mud). I omit the sepulchral couches and other accessories so as not to make the work too complicated in our case.

Working.—Fix the horizon G P, the inclination of the angle A B C, and the point of sight O. The other points on the horizon to be found as before. From the point B draw B E parallel to the horizon and the vertical B F indefinite. On B E mark the several horizontal dimensions, and on B F the vertical dimensions; all these dimensions coinciding with the scale X. Having marked the several projections of the pilasters on B H, carry them, by means of the geometric point G, on to the visual B I. Draw the diagonal B D, and from the points of coincidence bring these dimensions to the diagonal and the other cross line, and we then have all the projections marked on the diagonals. Direct the several heights to the diagonal point D. At this point of coincidence with the verticals raised from these projections, and by means of the visuals, the whole construction is found. For the other pilasters, produce the visuals from the first, and draw the diagonals M N, L Z. The dimensions of the lower part of the tomb, marked by a small o on B E, are carried by means of the point G' to the visual B C, and thence to M R. The rest of the working by means of the construction lines is easily understood.

To draw the double pent roof bring the dimensions 1, 2, 3, 4, 5, 6 on to the diagonal as 1', 2', 3', 4', 5', 6', and cross it by the visuals directed to P'. From 6' draw the parallel V y, and on it mark the geometrical widths of the roof 7, 8, 9, 10, 11, 12, 13, 14, 15. By means of the point G bring these dimensions to the visual U 6". Thus 7 will give 7', the latter will give 7" and 7". Then 7" will give T, and so on. Finally, 5' and 6' will give 5" and 6", and the latter will give 5" and 6". The width of the central beam is geometrically indicated on B E as a b. This is carried to a' b', and thence to a" b", and raised from the last to a" b".

A careful examination of this figure will show

the ease and rapidity with which perspective may be drawn with mathematical exactness.

As far back as 1879, when studying the properties of similar triangles which I found while drawing lines on a photograph of an architectural subject (see Plates II. and XVII.), I observed that by a very simple operation the proportional vertical and horizontal measurements of an object, equivalent to its plan and geometrical elevation, could be obtained from a photograph.

By reversing this process, that is, from the geometrical dimensions only, whether ideal, deduced, or actual, a perfect and universal rule of perspective is obtained.

Plate XVII.

If we take a photograph of an architectural subject, such as the present, and draw the visual rays G A, A B, H I, and E F, producing them till they meet in P P', we obtain at these points the two vanishing points, and the line of the horizon passing through them. Having fixed at O the centre of vision, which in a photograph is always at the centre of the focus (though in the present instance it will be found more to the left, because the photograph has been cut away on this side), and by the usual process, at Q we find the two geometric points G G' and the diagonal point D.

Now if, for example, we draw through the angle of the plinth R a parallel to the horizon, and a vertical line through the same point R, we can on this horizontal line obtain the proportional geometrical horizontal dimensions, and on the vertical line corresponding geometrical vertical dimensions. Starting from the geometrical point G', draw lines through the corners of the plinths at 1, 2, 3, and, starting from the other geometrical point G, draw lines through the other corners at 4, 5, 6, and it will be seen that the geometrical dimension R-1 is equal to 2-3, and R-4 is equal to 5-6. So the space between the columns 1 and 2 is equal to that between 4 and 5. The vertical dimensions are obtained by drawing perspective rays from the diagonal point D to the vertical R-7.

Thus, for example, the height of the zoccolo 7-8 is marked geometrically at 7', 8', as 8'-9 is the height of the pedestal, and 9-10 is the height of the column including the plinth and capital. If a line be drawn from the angle of the architrave A to the diagonal point D, it will pass exactly through the angle of the other architrave at S. Every other part of the photograph, if taken from a perfectly constructed building, is in every way subject to this rule.

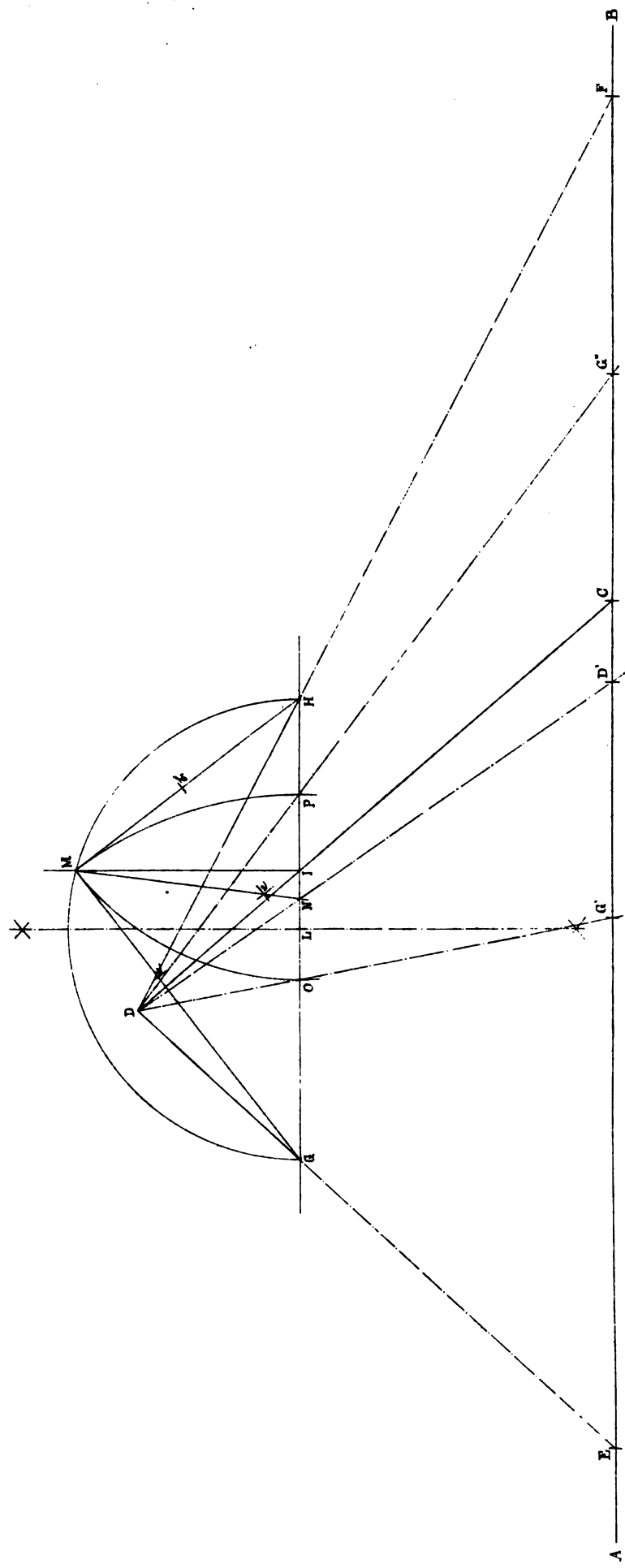
It is therefore evident how all geometrical dimensions of height and breadth can be found from a photograph of a suitable size, which is equivalent to obtaining the plan and geometrical elevation. By the reverse operation, that is,

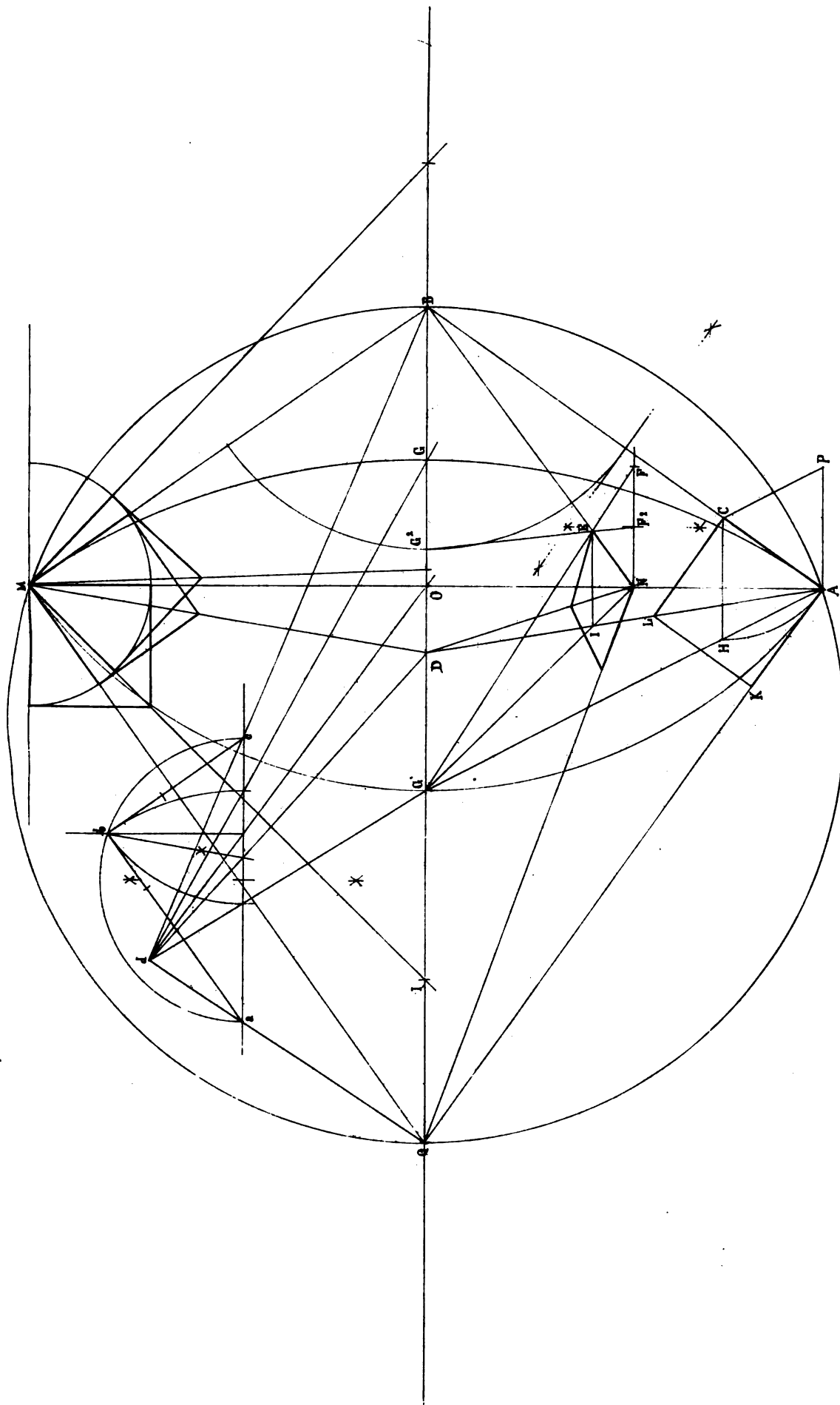
having the geometrical dimensions, whether ideal, deduced, or actual, we have the last and perfect universal system of perspective as herein set forth.

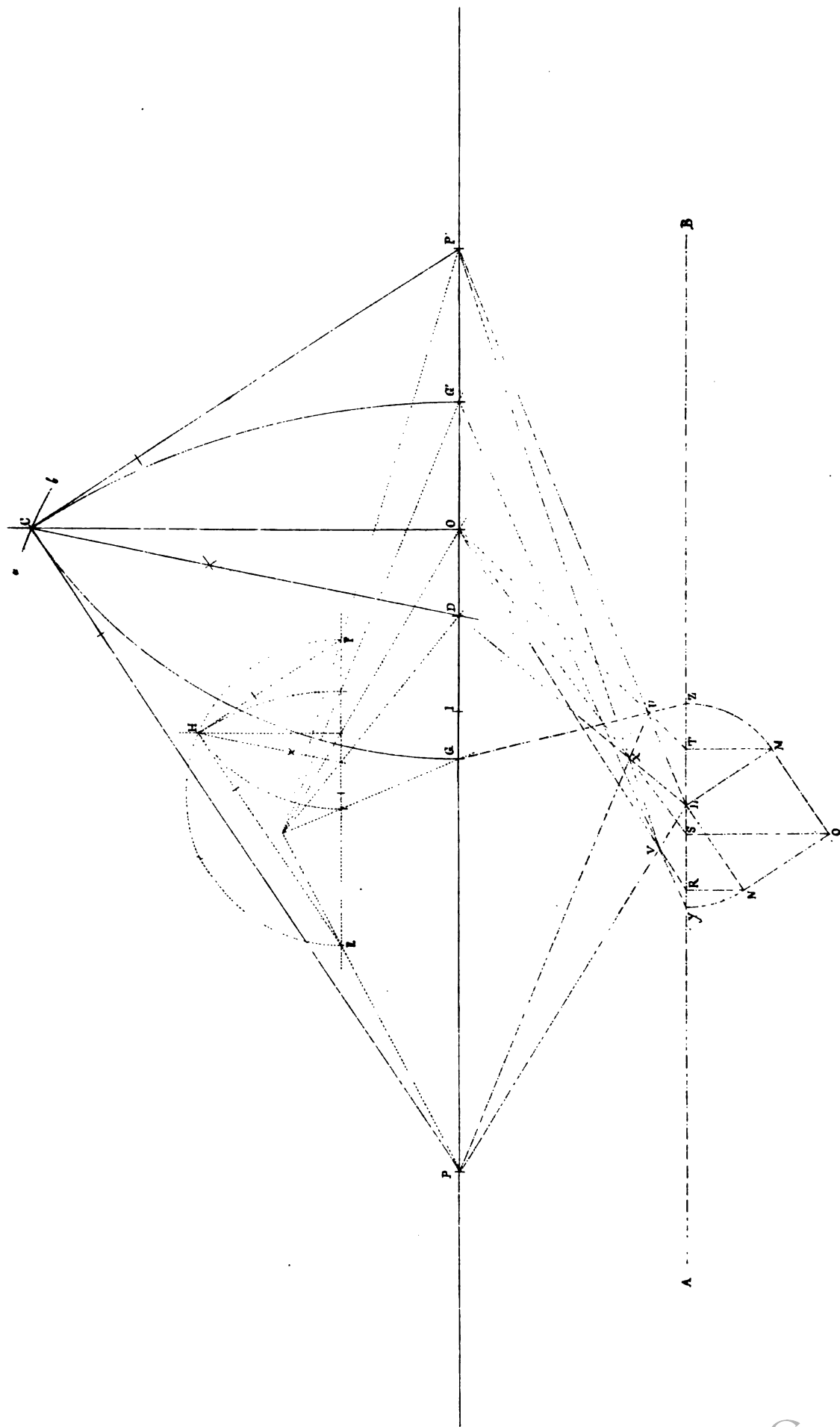
As a final proof: From the centre of vision O, let an indefinite perpendicular O U be drawn. Let the horizontal line P P' be intersected at T, then from the centre T with radius T P let the arc P U cut O U at U and draw the geometric right angle P U P'. Then with the centre P and

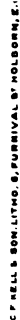
radius P U we find the geometric point G'. In the same way, from the centre P' and with the radius P' U we find the other geometric point G, and the vertical O U is the geometric distance. This last process is, however, already well known.

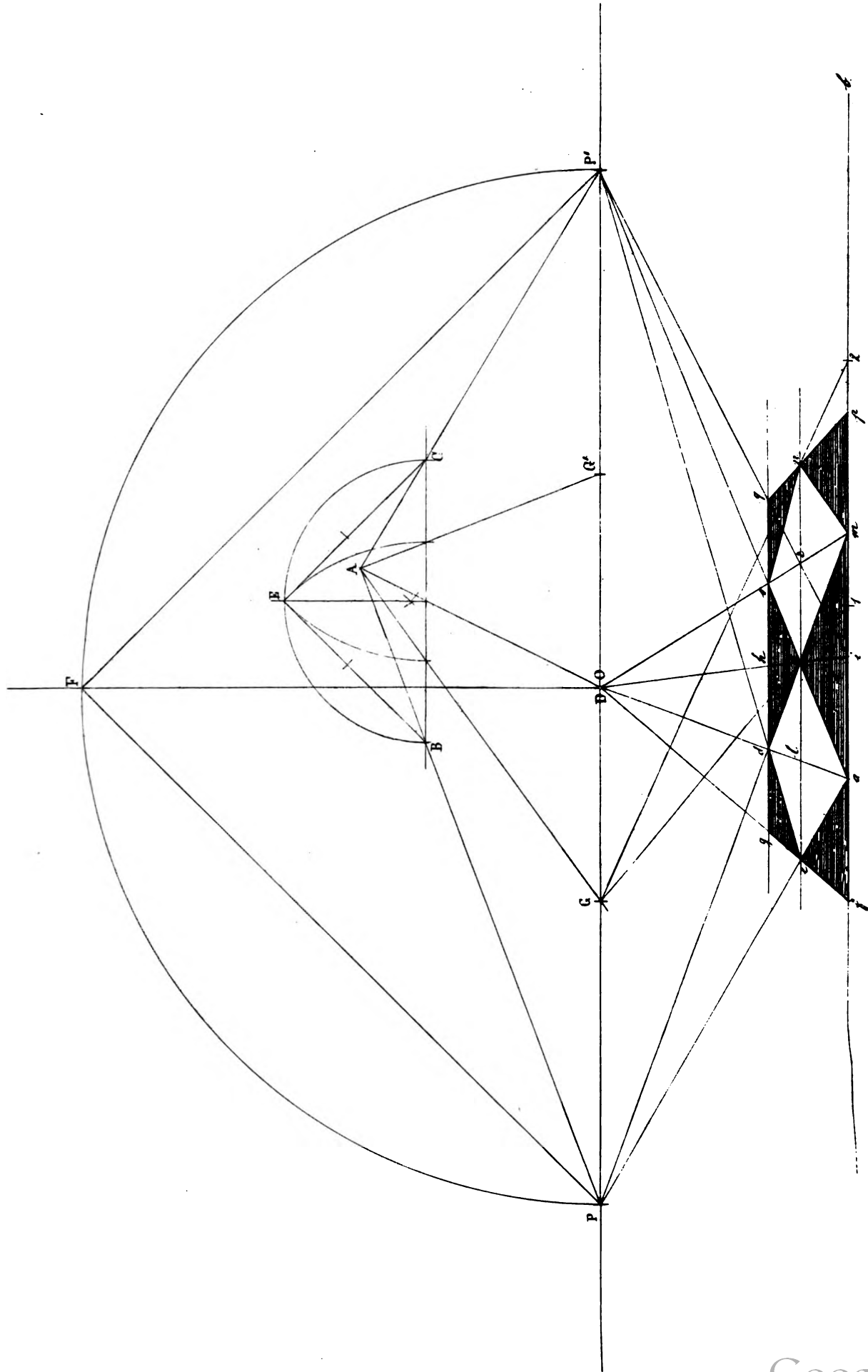
A thorough geometrical scholar will see by an examination of this plate that the whole process is derived from the properties of similar triangles, as shown in Plate II., and the art of drawing derives immense benefit from this positive science.

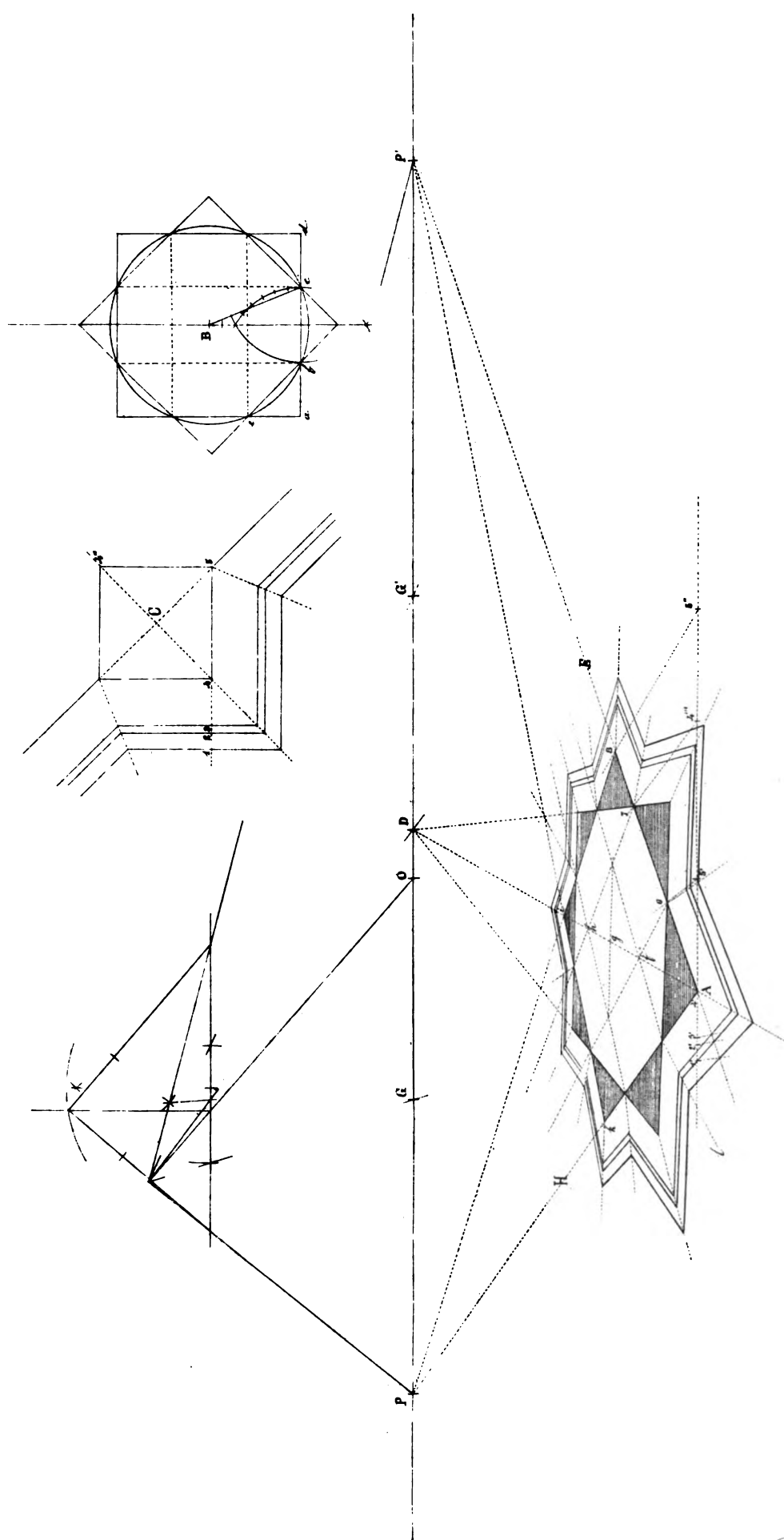


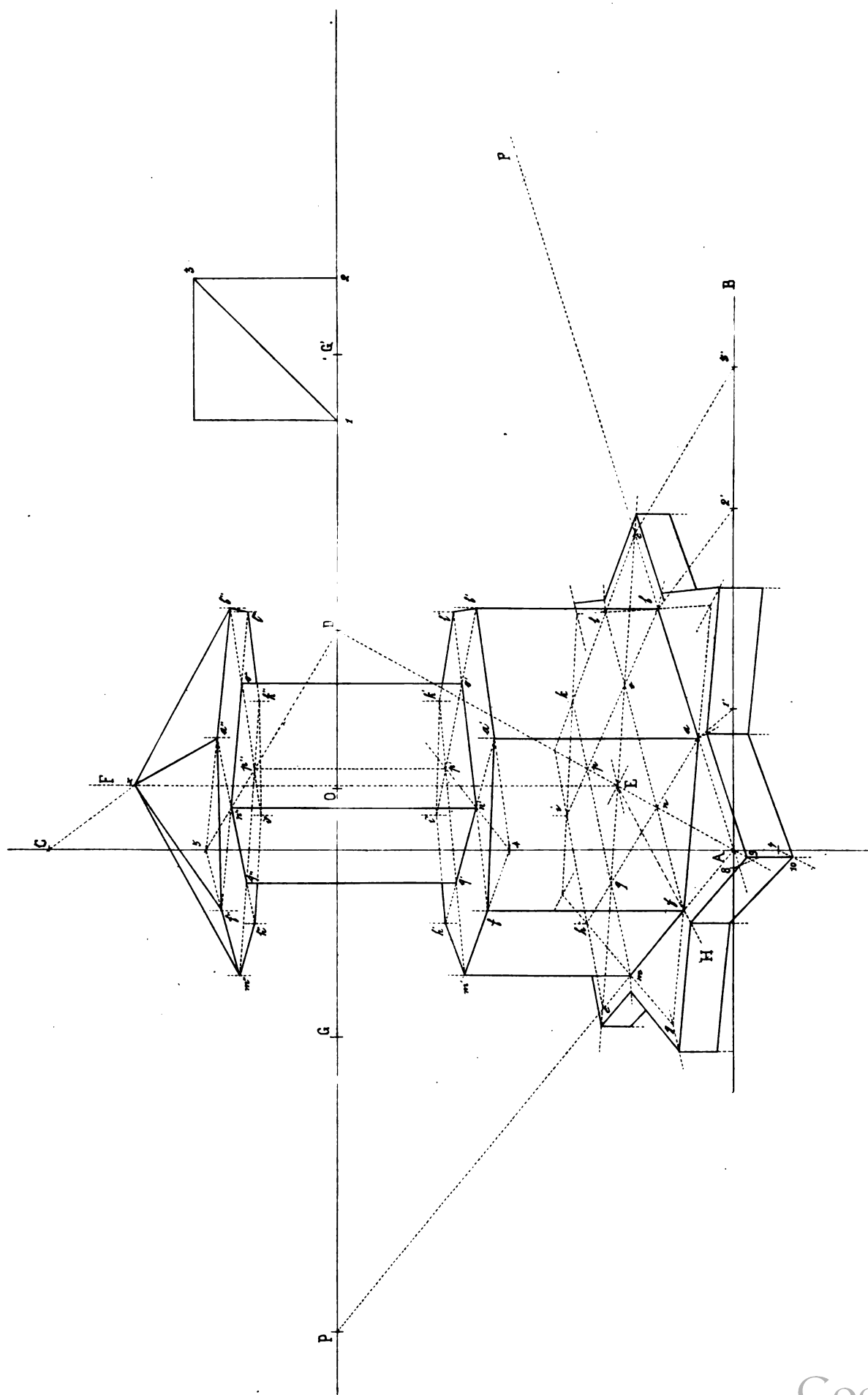


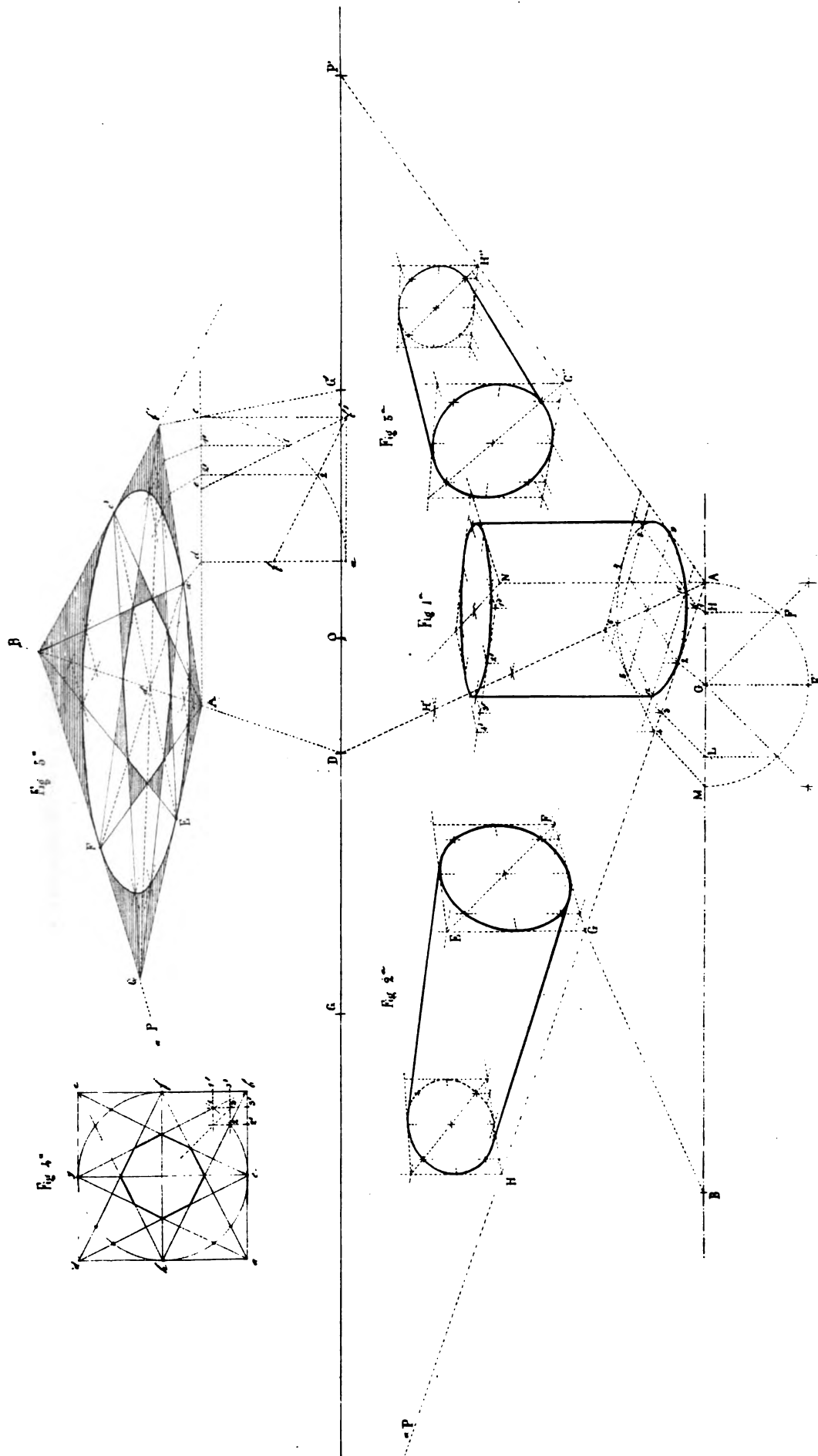


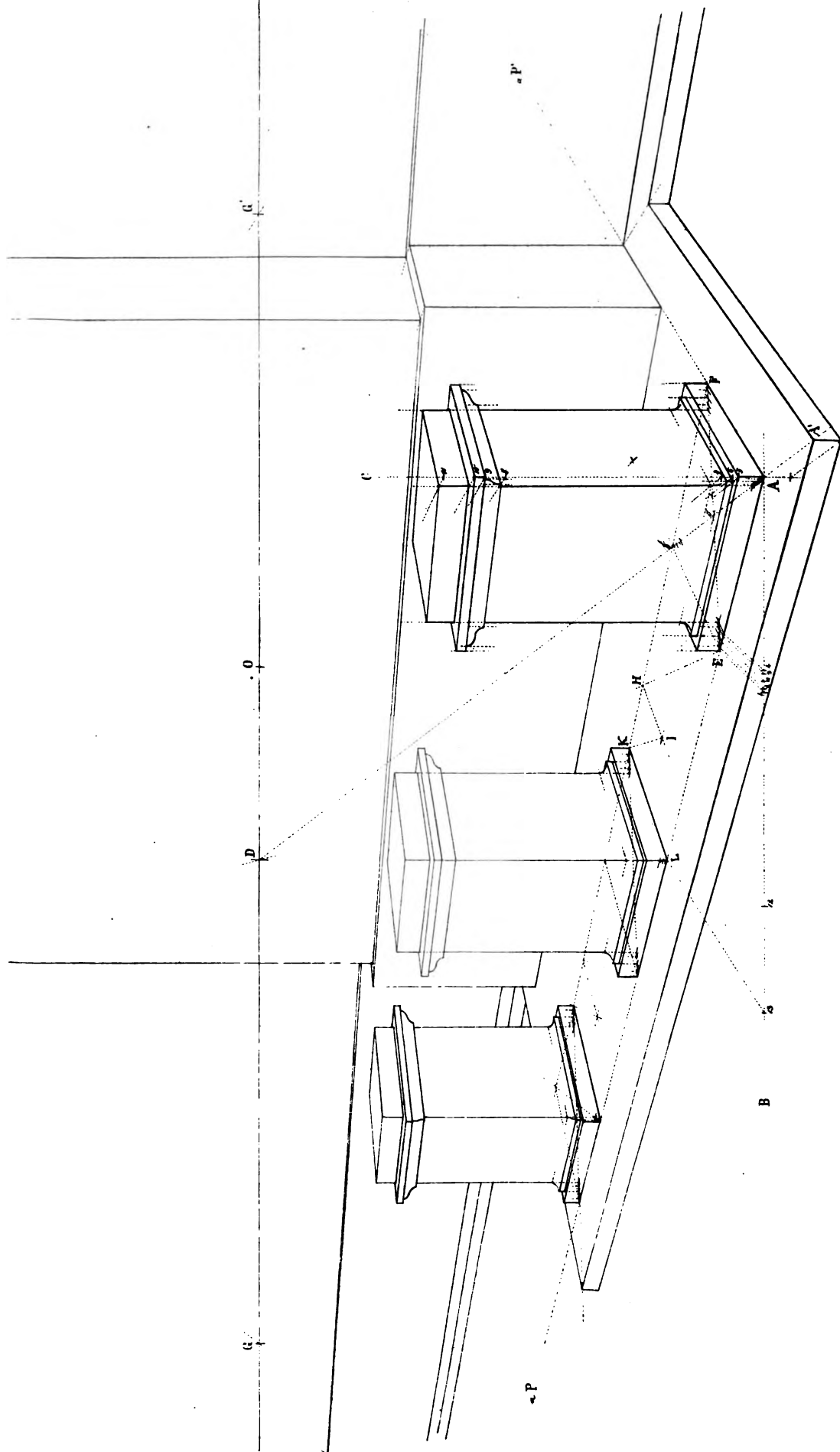


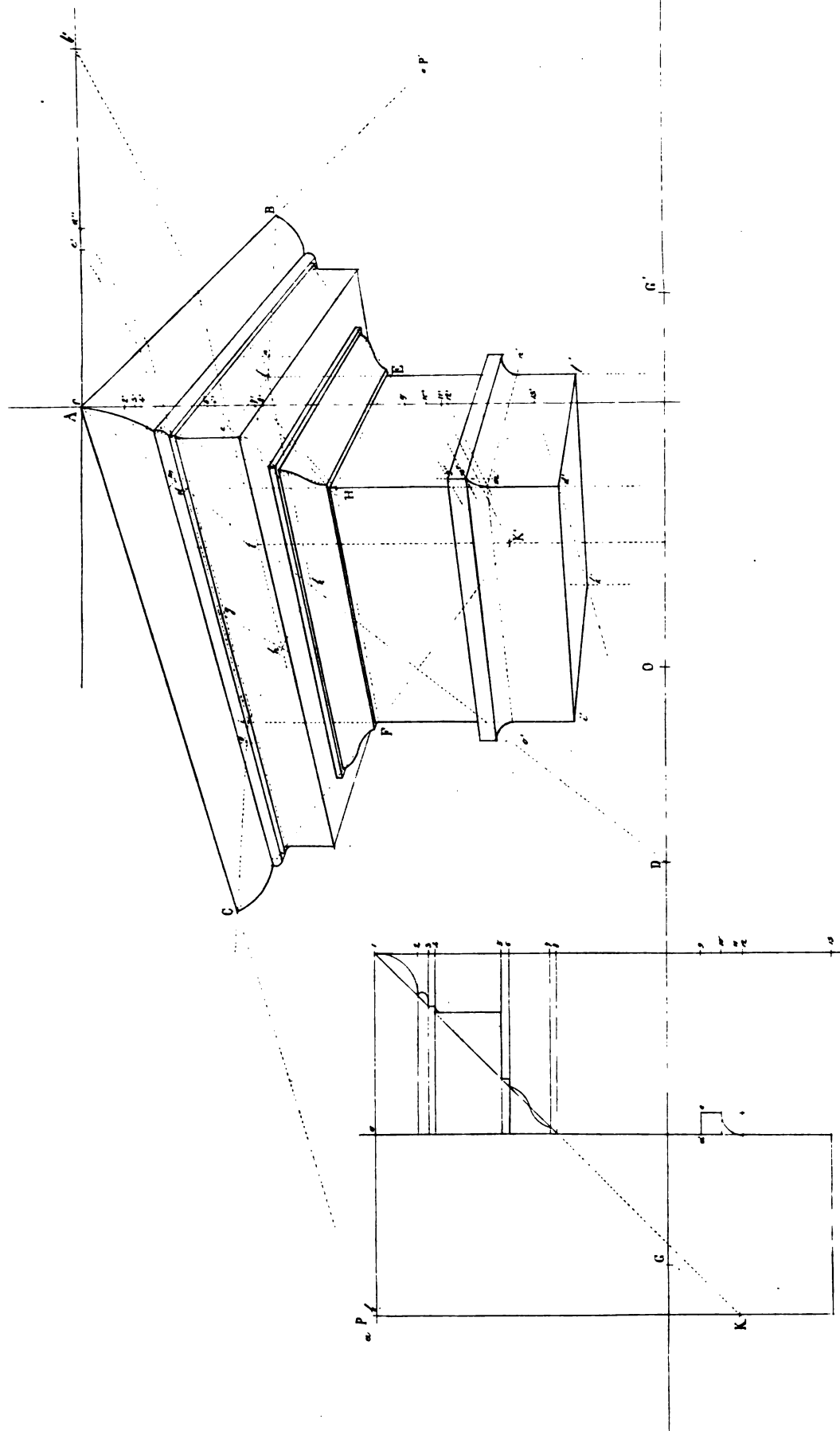


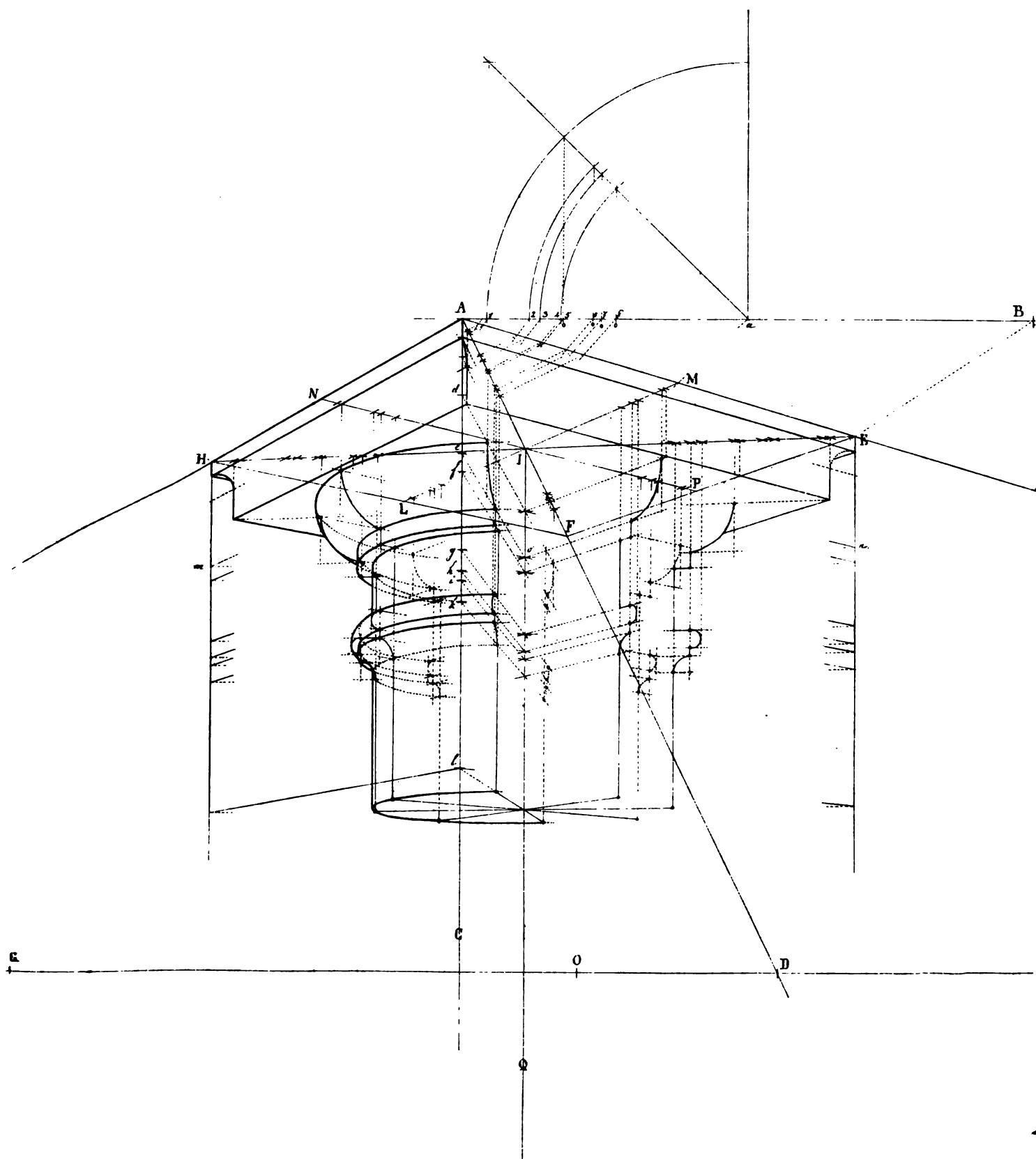


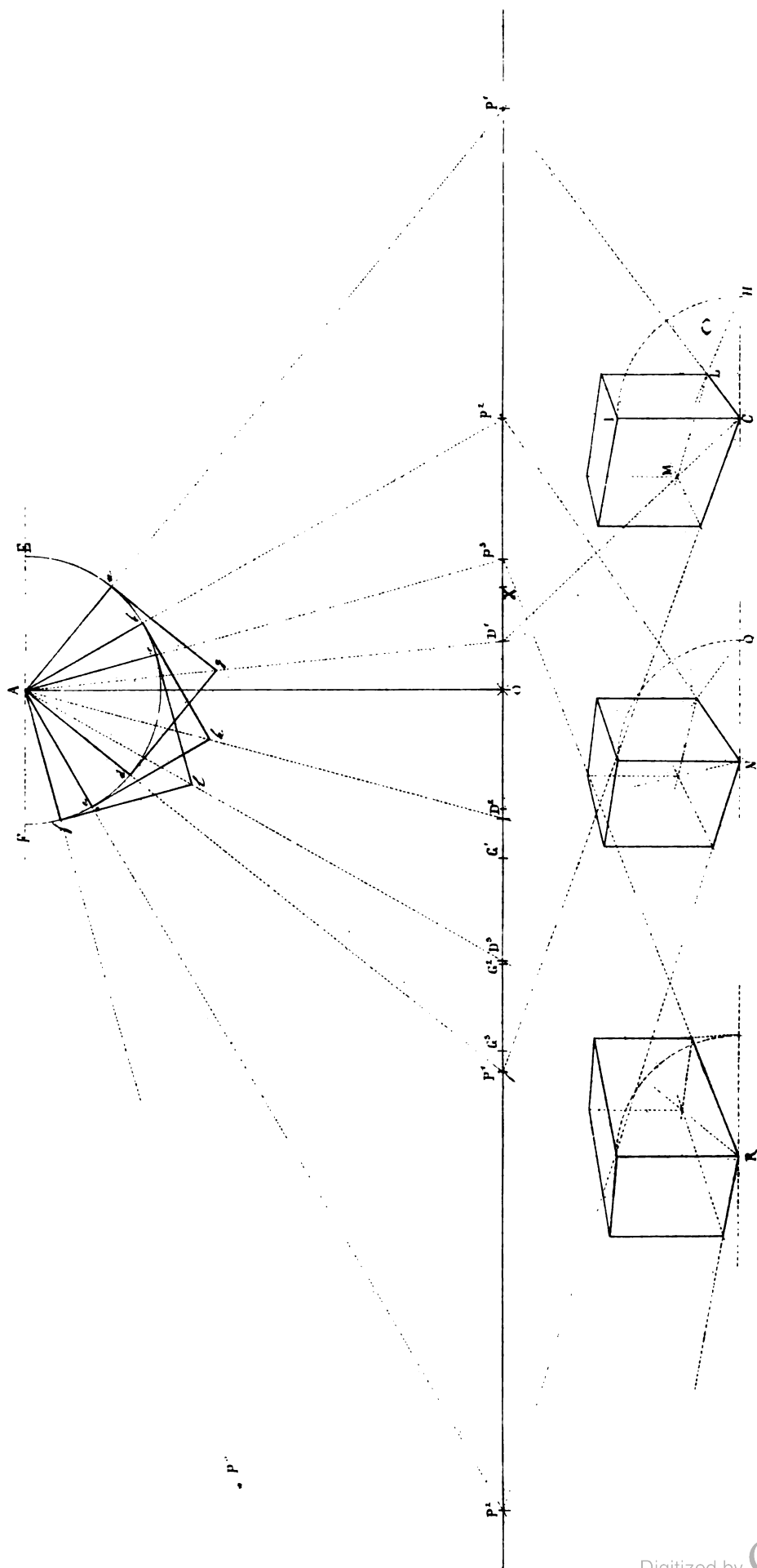


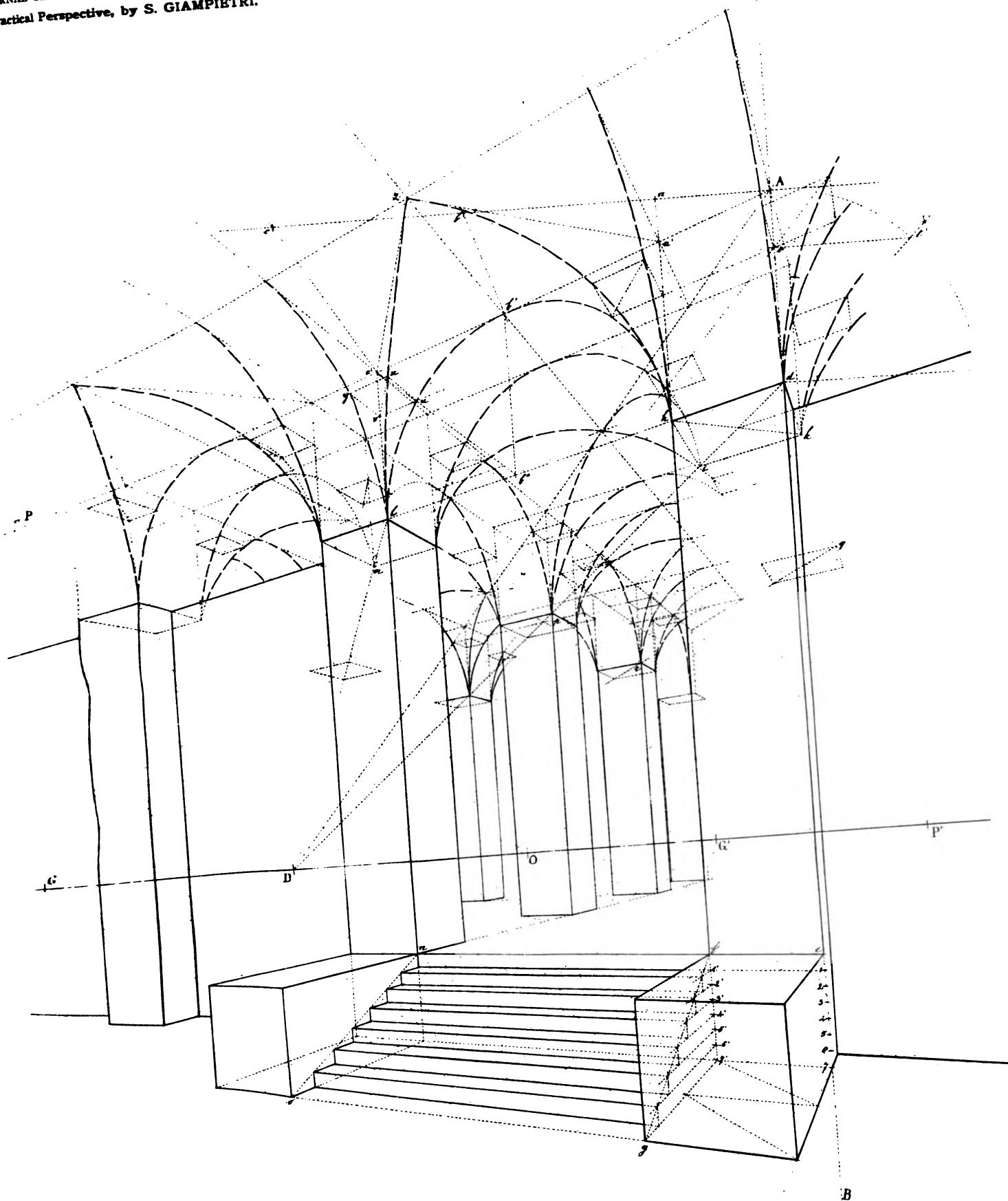


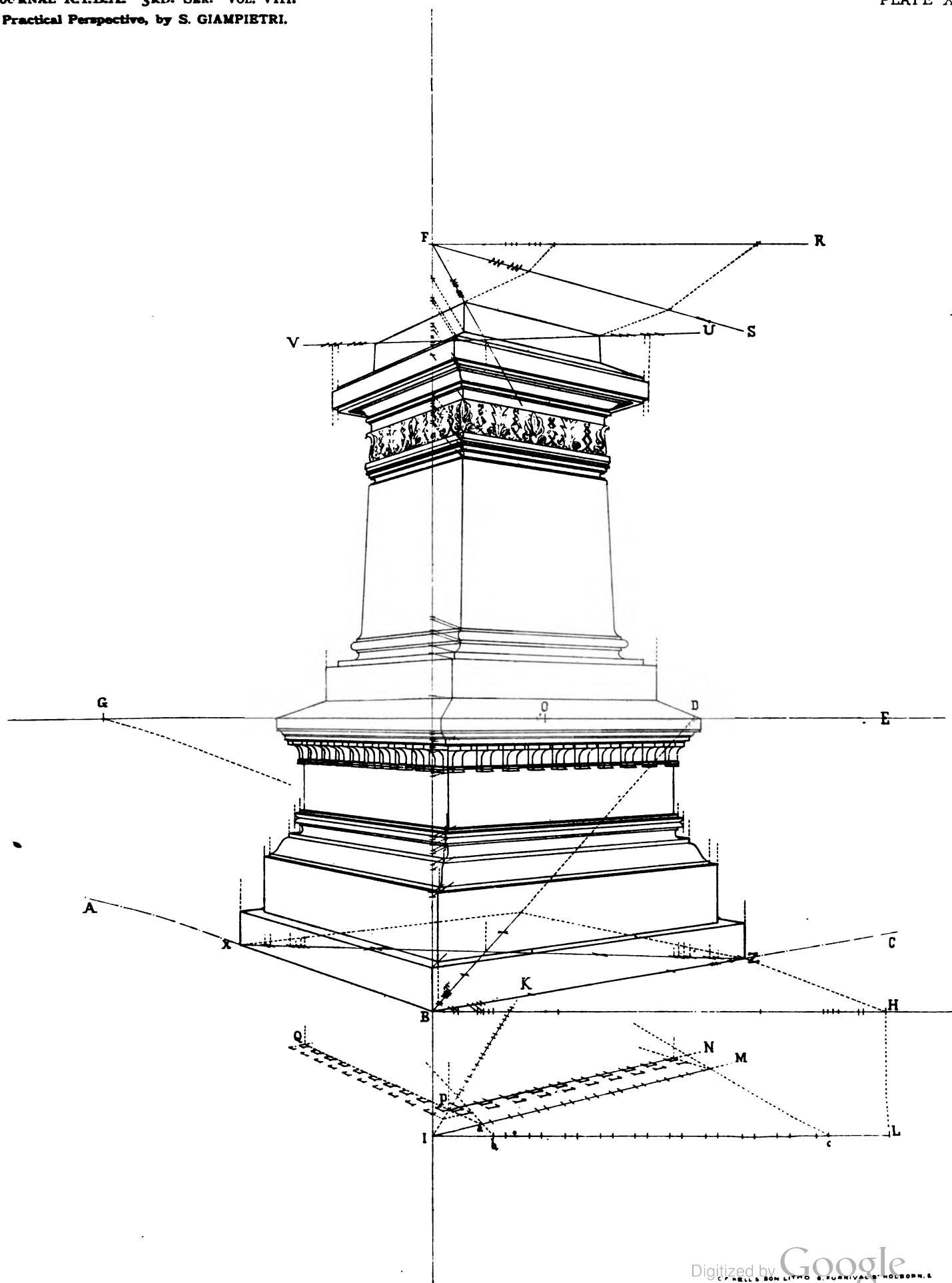












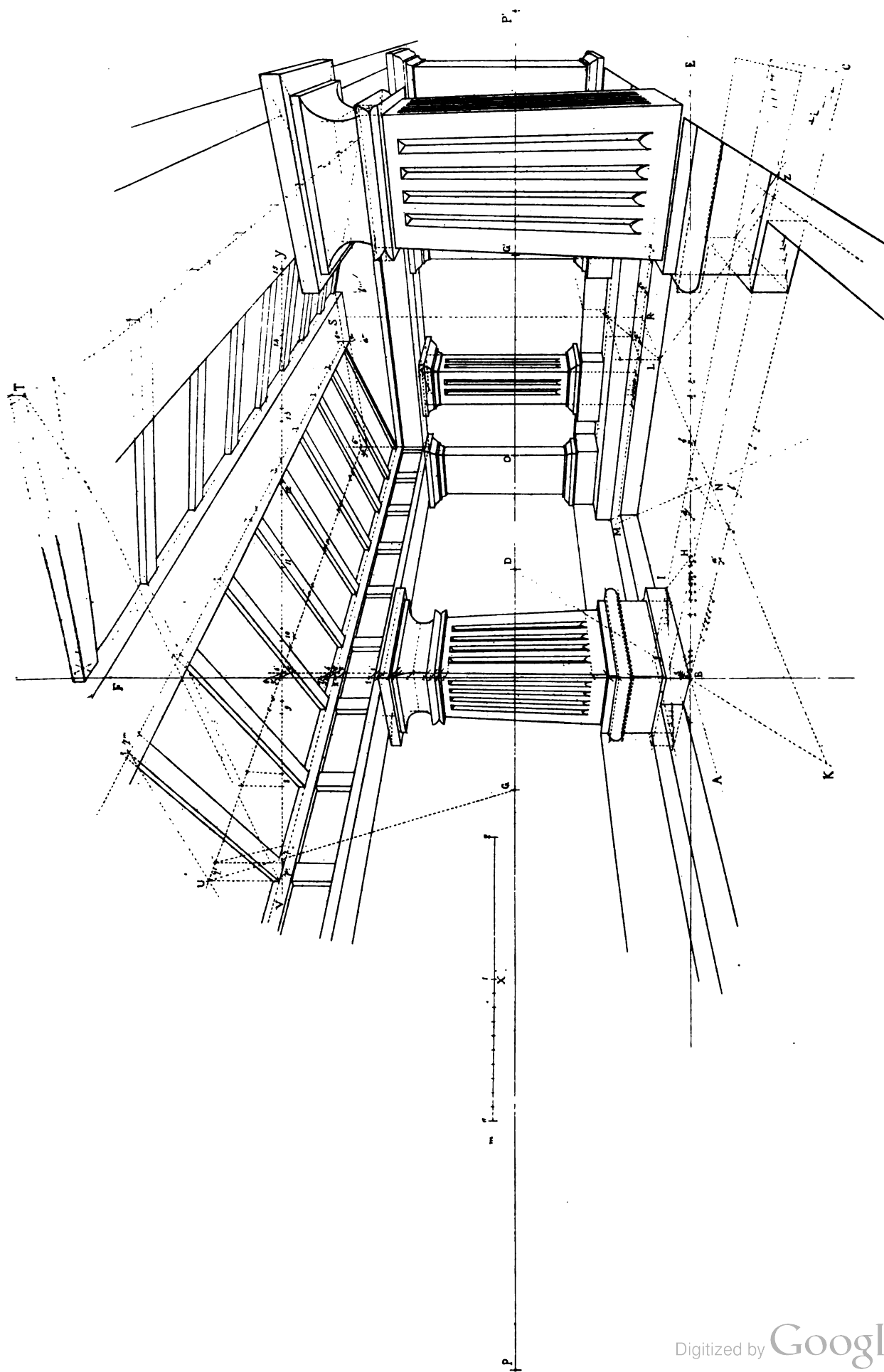
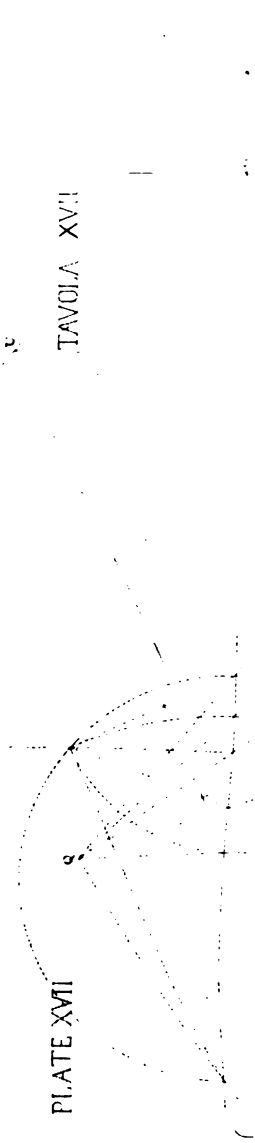
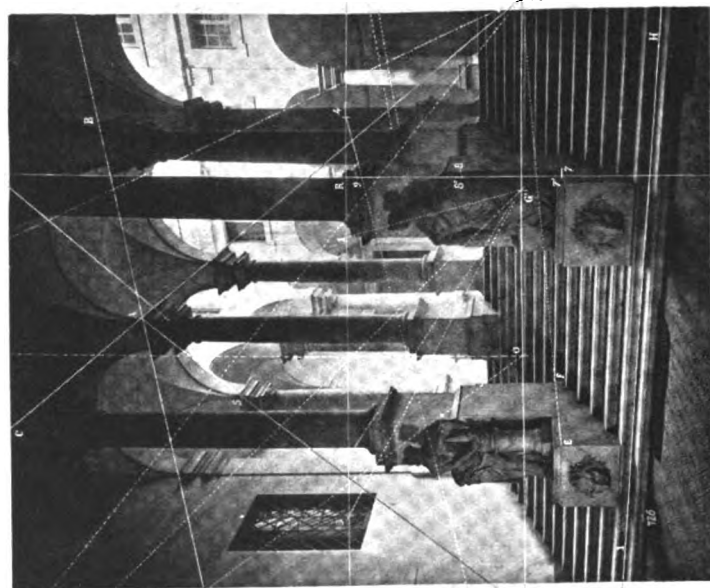


PLATE XVII

TAVOLA XVII

PLATE XVII





A REVIEW OF THE TENDENCIES OF THE MODERN SCHOOL OF ARCHITECTURE.

By Professor BERESFORD PITE [*F.*].

Read before the Royal Institute of British Architects, Monday, 17th December 1900.

I PROPOSE to divide the large and rather indefinite subject that we have to consider to-night, in reviewing the tendencies of the modern school of architecture, into a series of somewhat genealogical chapters, commencing with the close of the well-worn Battle of the Styles. We shall review severally the close of that campaign, then the alliance and combination of the rivals and their devotion to a doctrine that all old work is sacredly beautiful, which issued in a revolt against style in a new and unexpressed manner.

We shall then consider the effective results of the Gothic Revival in stimulating the subsidiary arts and crafts, specially under William Burges and E. W. Godwin; also the influence of William Morris upon the purely decorative crafts. The ideal of a revival of the building crafts, and J. D. Sedding's influence towards that end, will follow. The present usefulness of the work of Wm. Butterfield to the student will be noted; and the potent influence of Mr. Philip Webb, now combining with the school of Mr. Norman Shaw, will bring our review near to its limits; and we shall close with a short appreciation of Mr. Bodley's work and with an opinion upon the artistic tendencies of competition designs.

THE CLOSE OF THE CAMPAIGN OF THE STYLES.

A generation has arisen that is untrained in the orders and systems of proportion of the art of architecture.

The old school has not developed into a new one, handing its tradition onwards, for it has no descendants. Respect for its habits and methods has long ceased, and though a tardy regard for its buildings may be gaining ground amongst us, a return to its process of evolution, by systematic proportion from a single factor of dimension, would be considered intolerable. Of this all current design is witness for good or evil; and the published curricula of the various centres of architectural education, together with the examination syllabus of this Institute, offer no evidence of the pursuit of the Classic methods of dimension, proportion, and conformity to type, upon which the school of the early part of the nineteenth century based its ideals of architectural beauty.

The old school is dead. After a long and valiant struggle, it fell killed in the long-drawn battle of the styles, vanquished but not extinguished; but its great antagonist, if not yet interred, is also mortally stricken and seeks sanctuary for its flickering life.

The revival of interest in national mediæval architecture was attempted originally upon a system of proportion and design akin to that of the old school, but Pugin's "True Principles"

revealed an accurate and more natural method of observation and reproduction, and ere long the romantic charm of archæological study within our home islands, together with the new ecclesiological fervour of the time, carried the majority of architects, students, and cultured amateurs, along a path of enthusiasm, compared with which the mathematical composition of an architectural design was an absurdity, deduced from a darkened century's strivings with a dead Pagan art.

The old school struggled bravely for its classical and scholarly refinements, but vainly, for the generation of its teachers passed away without successor learners, and though there was no capitulation, exhaustion had extinguished the brave resistance so long offered to ridicule and misrepresentation. But it died a school, and leaves existing its concrete methods, its parts, proportions, principles, and orders accurately systematised and available for the use of all inquirers. It may be yet that some not far distant day in an eclectic hour may reproduce its bygone Greek music from its long-forgotten scores.

The great and chief antagonist, however, has also fallen in the fray; there is but little life remaining in the Gothic school that once dreamed of universal sway. Standard after standard has been abandoned; Period and Purity, Truth and Christianity, and other brave and soul-stirring watchwords so zealously appropriated, have been snatched back from its hands and surrendered to main force. There remains a great series of civil and domestic works, admiration for which is rather waning than waxing, and a valuable residuum of its ecclesiastical fervour in a sympathetic and practicable adaptation of religious buildings both to Gothic form and current requirements.

But is the Gothic Revival dying with the dignity, traditions, and possibilities of renaissance of the older school which it displaced? Does it leave methods, principles, and styles, construction moulds and decorations, in such order as to be practicable instruction material for future generations? Or have its motives and principles been merely the reflection of ephemeral sentiment, which, though grasped with intensity and earnestness as facts, have proved to be but shadows, leaving nothing reproductive and capable of development and progressive tradition? Unless the dim future brings forth what historical experience cannot encourage us to expect, and combines the romantic emotions of a literary school, itself dependent upon external social and political conditions, with a recrudescence of mediæval faith and ideals in religion, there is but small hope for the survival in fruit of the teaching of the masters of the Gothic Revival who have combated so vigorously the older systematic classical methods.

The earlier architects of the Gothic Revival however had been trained in an academic treatment of architectural forms, and applied themselves with zeal to classification and elimination. Failing other standards of taste, the date of erection furnished an effective substitute, and the round figures of the mediæval centuries became standards; mid-century work was pure of its era, and the early and later periods verging towards zero being respectively undeveloped and impure.

Strange and fictitious though this sounds, it provided an effective and rapidly-acquired standard of taste and criticism, and may be found learnedly developed and exposed in the works of Rickman, Sir Gilbert Scott, Edmund Sharpe, and others. Chronological position and antiquarian certainty became all-important, and the champions of rational criticism and native art against the professors of mathematical proportions and systems, found themselves ultimately relying upon another and unmathematical relation of figures to each other, which, though indicating history and time, has little to do with the essence of beauty or art. A system of dates having almost arbitrary epochs could not long maintain its imaginary standards of purity. The strength of the movement and school lay in a direction apart from any purely dilettante ideal. It had revealed the latent charm of the freedom and unconven-

tionality of the art of our unsophisticated forefathers, and the new revelation of mediæval life and genius shone brightly amid and above the doctrines of its pedantic champions. It is a study of remarkable interest to observe how the greater guiding spirits of the movement, men like Street, Burges, and E. W. Godwin, who possessed artistic instinct as well as highly developed archæological perception, gradually forced their way through the earlier schemes of taste and purity, and though still repeating the formulæ of Christian art and truth in construction, worked within the large confines of mediæval art with complete freedom and artistic eclecticism. With the dawning recognition of the full appropriateness and beauty of all forms of mediæval art, the unexpressed but strongly-felt doctrine of the real beauty of every genuine relic of the Middle Ages began to influence students and gain acceptance. This procured a reaction against the over restoration of ancient buildings, and a healthy protest, which we would had come earlier, against the elimination of earlier or later mediæval work than that allowed to be of the particular phase considered to be "pure," for the time being. Ruskin's teachings of the meaning and beauty of Venetian Gothic, and the publication of books of drawings by Mr. Norman Shaw and Nesfield, Street's books on Italy and Spain, and the spread of illustrated architectural journals with an increasing volume of sketches from the Continent, all helped the release from a pedantic system and opened men's eyes to the wideness of the beauty that was beginning to be revealed.

To sketch and measure with careful conscientious regard to original purpose and use became the duty of every earnest student. He was instructed by constant and repeated observation and study to drink in the spirit of the old work, and to design his new buildings while under its exhilarating influence. The very crude methods of mediæval drawing were learnedly examined, and the fascination of archæology replaced the cult of draughtsmanship. The mediæval spirit, as it was, as it worked, as it drew, was all of system, principle, or method that the modern architect now needed.

It is remarkable, and will perhaps appear increasingly so in the future, how delightful this study proved to the earnest Gothic Revivalist; the ruined walls and dry bones of antiquity lived to him, and lived for modern uses and purposes, as supplying from a long forgotten fountain lying at his feet, a vivifying source of beauty for the unbeautiful and stern realities of the latter half of the nineteenth century. He drank deeply enough to be absorbed, and indeed so had many a Dryasdust-antiquarian before him; but he was a fellow craftsman and builder, with concrete opportunities, instead of an abstract theorist, and he built upon his discoveries and enthusiasms, and therefore sketched and measured with eyes eager for piquant solutions of the daily difficulties of practice, and found nearly all he wanted. Certainly all and more than was necessary for ecclesiastical purposes; nearly all for domestic, with certain reservations made in the interest of the selfish comfort of half-convinced clients; and he only alas! in commercial art, sought in vain for a pleasant solution of the iron stanchion and girder difficulty, which became finally a subject of possible artistic excommunication.

There was a wealth of available material indeed, and a yet unexhausted store of energy and enthusiasm in the students; but when the change came and the lamp went out, there was no residuum of framework method or principle, only the inchoate notion of the wild but real beauty of all old work, and a new delight in picturesque draughtsmanship.

These were the two main resultants of the Gothic Revival at the time of its effective decease about twenty years ago, and these effects have since formed the staple principles of most pursuers of the art of architecture in England. It is with their progress and some review of their attained results that we are now concerned, as well as of the future that may be expected from so narrow an equipment.

THE ALLIANCE OF THE RIVALS, AND A DOCTRINE OF THE BEAUTY OF ALL OLD WORK.

The Gothic Revivalist school had abated not a tone in its praise of purity of style in the early days of its struggle with the Classic school, and acclaimed the merit and unavoidable beauty of exhibited truth of construction, as a grace which was wellnigh impossible in a Pagan false art; but the revival as a school died in an excess of artistic libertinism, calling no old work pure because none in its distended gaze was impure, and rejoicing, by employing iron flange brackets and concealed girders, to carry the quaintly overhanging stories and oriels of half-timbered rustic forest granges, backed with necessary brickwork, to comply with the bye-laws of those Philistines who fear destruction by fire in their dwellings.

It is pleasant to stand aside and observe the power that artistic impulse possesses of compelling the professors of the purest and most obvious architectural maxims, to redigest in unresisting silence the treasured motto, "Build in Truth." Is the Love of Beauty stronger than the Power of Truth? Or is the truth of construction that is dictated by the motto only an exhibited hypocrisy of simplicity, and an anachronism, untrue alike to the day and to the civilisation in which we move?

The progress of the doctrine that all old work is beautiful has been steady, and a limit has scarcely yet been found for juvenility in a subject of beauty. Speaking on the verge of the twentieth century, it is hardly safe to place it so far back as the close of the eighteenth. Erstwhile ardent Gothic Revivalists now acclaim the wonder of Professor Cockerell's works; and we are promised a step further, in considering the Classic art of Sir Charles Barry, as an early occasion for renewed enthusiasm for that which is past. But this extension of thought is perhaps unpractical to-night, and we will confine ourselves to considering how this present-day love of elderly beauty passed from Gothic to Renaissance, and down the developing stream of traditional English architecture, until the period of the Neo-Greek revival towards the end of the eighteenth century.

The birth, growth, and power of the Queen Anne movement in architecture probably owes more to revived interest in picturesque draughtsmanship and the cult of ancient national buildings, than to its obvious compromise and attempted union of the forms employed by the rival Classic and Gothic schools. It was, however, an effective compromise of principle on both sides, as each renounced with mutual relief and amusement its several doctrine of purity, and admitted on the one hand the validity of Gothic romantic and unsymmetrical grouping, and on the other the beauty of Classic detail and ornament.

A new direction was found for the zeal that was formerly employed in polemics, and a generation has witnessed—with satisfaction, we may hope—the efforts of the original to be romantic, and of the restrained and classic to be dignified and broad, in a nameless conglomerate style, which has induced every follower to renounce, deny, and fight the original principles of either school, and to design up to the level of sketchability; and to be satisfied always with the formula of the beauty of some old type which has been painfully studied.

The revolt of the Renaissance was more the result of the new revelation of Classic art and letters than of an intelligent dissatisfaction with the later phases of Gothic art. In fact, an independent critical opinion upon current Gothic architecture in the sixteenth century seems inconceivable. But men of the highest order of inventive artistic gifts were then awaiting the revelation, and made full display of its riches with marvellous demonstrations of genius.

It has to be admitted that in the Modern Renaissance the quaint conceits of partial ignorance, with the added charms of romantic history, ruin, decay, lichen and ivy growth,

entered unconsciously into the current estimate of the beauty of old work. Apart from these accidents, there is little that can be described as good or even tolerable design, of cultured and deliberate thought, in much old work that is now considered admirable because it charmed. The crudities of Jacobean brick architecture and wood-carving, apart from the cases where genuine beauty of material and workmanship avail, are evident the moment that we disillusionise ourselves in order to be practical rather than sentimental. The vulgar attractiveness which characterises speculative villa building also, where it is not fraudulent, needs only the softening fingers of climate and time and the association of some tragic or historic literary interest, to make the current building of the last half of the nineteenth century as logically beautiful to the architect of half a dozen generations hence, as that of a similar period ago does now to us. We can almost realise that the change of view is now coming upon us. Architecturally we have lived at such a rate, a generation or two having sufficed to supply a microcosm of the whole architectural universe of style, that we survey under constantly changing light the works of our immediate predecessors, and find the only charm, in what was designed as chaste classic, to be its eighteenth-century quaintness, and in what were intended to be vindications of the purely classic capabilities of Gothic monstrous and piquant barbarities.

Our standpoint avenges itself upon us. If all old work is beautiful, then that which is becoming old is growing beautiful; and if our doctrine has truth in it, beautiful architecture will be ere long inseparable and indistinguishable from antiquarianism—as, indeed, it is already in very many typical cases.

We have really lost our way amid the beauties of English antiquity. We pursue no definite ideal now, but wander aimlessly among the enchantments of quaintness, originality, and unrestrained though demoralising freedom of design. Breadth of view, sympathy with Nature, a recovered poetry of architectural idea, and a genuine appreciation of the historic element in old buildings, have been gained in our wanderings. The intellectual furniture of the architect's library has been enriched, and with this the pleasures of our practice in design have developed. The absence of law has set us free from obedience; our pencils sportively play with all that is sketchable; and withal we are still enthusiastic, not having yet attenuated the fever of a preceding generation of conflict and hot blood; and we can talk with earnestness, if not intenseness, of the artistic values and importance of the most trifling elements of everyday buildings.

The position is a most interesting one to contemplate, especially as we are not without sufficient examples of the work of talented and accomplished designers, who appear to be thoroughly conscious of the difficulties in which the tendency to heedlessly pursue revivalism has landed their generation.

THE REVOLT AGAINST STYLE.—A NEW MANNER.

Within limits of a different character, we have around us in nearly all the branches of architectonic and graphic art, proofs of living vigour of movement, power, and genius that future generations will not be niggardly in recognising and appraising. Painting, sculpture, and the decorative arts and crafts are instinct with growth and development; and architecture, which has led the advance and quickened the sister and daughter arts into life and power long before there are, or should be, any symptoms of arrested growth or decay, seems to have exhausted not her forces, but the material upon which they act, and, burning with suppressed poetic purpose, to have disdained and forsaken her various forms of speech, with all their necessary members of form, detail, order, and group, as unworthy and incapable of sufficient expressiveness of the new light that burns within; while, without the traditional

orders, forms, and methods of design, has she not become inarticulate to those who see and mark the outward only, almost purposeless, certainly incomprehensible and sadly unhappy?

That there is present, under the seeming voicelessness of the new sound, an intelligence and a purpose of expression, sincere earnest and useful, I am as convinced as we all now are of the single-hearted zeal of the Gothic Revivalists. The hardly developed tongue is one of protest against thoughtless repetition and meaningless quotation in a dead language, and underlying it a resolute endeavour to speak for itself, and it may be to itself, on behalf of liberty to be free in architecture from the architecture of convention, and for its attempt to oust affectation of style by an unaffected stylelessness of difficult simplicity. It is a murmur of dissent, almost a groan, perhaps a roar, against a vulgar Philistinism educated into the architectural opinionism which we meet so constantly. It will have nothing in common with the general taste in architecture. Ornament in the ordinary acceptation is an abomination to it, and nothing can be expressed with any hopefulness or purity in that language; while architectural features, methods, and terms must be scorned out of their arrogance, and not with self-denial but with obvious joy put away and forsaken. With this curiously expressed dissatisfaction with the results of architectural licence, we may sympathise as fully as possible. Its effect is similar to that of Cistercianism in the original Gothic of England, and the reduction of architectural study to its foundation elements is not improper for the student, and may be interesting to the world. An inquiry whether we shall in the course of elimination and abnegation attain to the simplicity of Stonehenge, or of the Great Pyramid, in our everyday architecture, may indicate the danger if not the absurdity of the tendency to make a complex civilisation, as reflected in a necessary art of civilisation, unnaturally simple.

REVIVAL OF THE CRAFTS.—THE INFLUENCE OF WILLIAM BURGESS AND EDWARD W. GODWIN.

But another road has led to almost the same point, as the Modern School has a more intellectual and satisfactory fruit of seed carefully and earnestly sown by the greater architects of the Gothic Revival in the revival of the building and decorative crafts. It is probable that the early leaders fought so manfully for Christian as against Pagan art, quite unconscious of this mine of wealth and life to current art. Their starting-point was romantic taste and association, but it was not long before Pugin discovered the riches of mediæval ecclesiastical decorative art, and in vestments, furniture, and altar fittings, in censers, roods, and candlesticks, opened up a new world of consistent and beautiful form springing from natural and refined craftsmanship. Eugène Viollet-le-Duc a little later explored the field of French mediæval constructive methods and of furniture, without in the latter case grasping the essential spirit of the age all being so much material for the exercise of mediæval design in a merely reproductive style. Others were at work, of whom John Shaw at home and Paul Lacroix abroad may be named, but with the advent of William Burgess a truer insight and completer grasp of the wonderful range of mediæval art was to be obtained.

Burgess was not content to design Gothic detail and apply pointed forms and quaintness to decorations in colour, or metal, or in furniture design. With scholarly completeness and patience he worked away from the modern architect's standpoint, down, or up, to the craftsman's level, whose whole thought lies equally in execution as in design, and in whose mind the method and material of his handiwork are everything. Burgess attained this end by his wonderful antiquarian insight into the objects of his study, coupled with architectural instinct and love and power of beautiful form. I do not think that he had any notion that it was necessary to sacrifice architecture, as the art of beautiful building, to craftsmanship of detail,

but he certainly obtained a mastery in both, and had found it on the pathway of enthusiastic antiquarian research. It is quite needless here to instance any of his works in building, goldsmith's work, decoration, or furniture—any example would be attractive and beautiful to us now. Their bloom has not departed, and we feel that his was living art. An interesting example of this view of Burges's work is his well-known sketch-book, the result of an attempt to realise the methods of study followed by mediæval architects, and founded upon a sympathetic emulation of the album of Wilars de Honecourt. This has more value than a mere antiquarian research, and was a practical exercise in the craftsmanship of architectural drawing and design as practised in the Middle Ages. Burges's book of architectural drawings reflects the influence of this exercise, and is perhaps among the most workmanlike and intelligent of helps to students. The drawings have such relation to the buildings delineated that their interest lies almost wholly in the object rather than in the method of draughtsmanship, and thus escape the general sin of books of architectural pictures, measured or otherwise.

I may perhaps be permitted to mention parenthetically that a similar spirit seems to be manifest in the measured plates of Mr. Penrose's *Principles of Athenian Architecture*, with their clear appreciation and exhibition of the craftsmanship of quite another and more abstruse phase of architecture; an architecture, however, that proceeded equally with perfect mediæval building upon masterly and complete technique.

That Burges did not practically extend the scope of mediæval genius into all the paths of everyday art, and had his limitations, is probably only due to the premature close of his career and to the comparatively limited scope of his work and opportunities. Textiles and fabrics would undoubtedly have developed under his hand, as they have later under those who are perhaps his unwitting successors.

Edward W. Godwin had a very similar genius, and displayed it in a rather shorter and more chequered career than that of Burges. His architectural outlook was somewhat freer, but in the faculty of insight into every craft, and of discerning the essential workmanship of his detail, he was quite his equal. He had the genius of a true antiquarian, and laid hold of the life of the men who produced mediæval art, being drawn out to them with an artist's sympathy, even to their costume. His rapid grasp of the essentials of construction and design was shown in a series of sketch measured drawings published in the *Building News* about twenty-five years ago, and which it might be useful now to collect and republish. He seized upon a group of picturesque roofing or a fragment of intellectual design and transferred its necessary lines and facts to paper with an energy and restraint that put not a line too many or too few upon his sketch. Godwin's facility in original Gothic design, and his phenomenal success in competitions, neither satisfied him nor betrayed him into forsaking his true grasp of the realities of architectural art. He was a ready follower of the earliest leaders into the eclectic renaissance called "Queen Anne," but with no merely pedantic or picturesque results. He took full advantage of the liberty which this movement promised him from the traditions of so-called "style," and felt his way and worked, as a building designer of simple villa-houses and economical artists' studios, with a rare and refined originality. The houses at Turnham Green and the studios at Tite Street, Chelsea, that he erected may indeed be cited as the earliest examples of intelligent artistic design upon the principles of sympathetic craftsmanship; present-day æstheticism has not carried us yet beyond the point he attained in these groups of buildings now twenty years old.

These buildings were designed with a view to the simplest and most direct achievement of the purpose intended, and avoided architectural treatment as such, with the employment of the current features of a particular style. The forms of the gable outlines, the grouping of windows and doors, the profiles of the mouldings, and the reliance upon decorative

detail of a high order, where required and when afforded, are exhibitions of what were then novel ideas, but are now well understood and undenied principles. Brickwork, masonry, sculptured ornament, and furniture, each lived and served under his hand as under a master who knew the craft and artistic range of each with complete thoroughness, each as a fruit of his view of the teachings of the Gothic Revival of which he had been so energetic an exponent, and in serving which he had acquired this enthusiastic sympathy for the constructive and decorative crafts which make up the architectural sum of mediæval architecture. In the case of Edward W. Godwin the steps of tendency move simply and illustratively onwards from the starting-point of scholastic tradition to the direction upon which the greatest promise of our Modern School is at present travelling.

WILLIAM MORRIS'S INFLUENCE ON THE DECORATIVE ARTS.

William Morris, himself a fruit of the Gothic movement, and in the sum-total of his life-work mediæval in the truest sense to the end, represents the link between the Revival in architecture and the Pre-Raphaelite movement in painting. Much of his work is of the present day—he has been so recently taken from us that his influence and power are working at the present moment upon so many, if not all of the decorative arts. The antiquarian thoroughness that forms the basis of his work in each art and craft is as complete as that of Burges, but as he was not an architect, in the usual acceptance of that professional term, his studies issued more rapidly in direct practical work. In stained glass, painted decoration, textiles, tapestries, illuminations, furniture, metal-work, and printing, he pursued the same method, investigating at the mediæval source the processes of development with infinitely patient study. His splendid gift of beautiful draughtsmanship was a necessary help that should not be under-rated, but it was invariably devoted to the end in view, and never usurped the interest or success of the material for or upon which it operated; its restrained power and absolute suitability to methods of production might be instanced by reference to his wall-paper designs, the many fascinations of which it is hard to define.

His practical alliance of artists with craftsmen, especially in early days, was an experiment which has left a permanent success as its result. We are in this room now accustomed to a doctrine of the alliance of art workers in a work of architecture, and this owes its acceptance to Morris's perception of the harmony and trend of the mediæval arts in their acme of splendour.

We may still be in doubt as to the practicability of depending for architectural design upon the workmanlike intuition of our artisans, though such a consummation may with safety be most devoutly wished, but we cannot avoid recognising that Morris himself was such an intuitive workman artist, and that the zeal which instructed him into that insight was kindled in the generation of Gothic Revivalists, and is a veritable and beneficent influence of power in our midst to-day.

The influence and teachings of Morris, however, are not being only confined to the merely decorative arts. It would be difficult to provide a working definition of that phrase, as his work included much that was constructive in character, as furniture, and to which the simpler laws of practical building apply. Morris began with mediæval art, and became in a fine and true sense modern; but he began with the decorative crafts at a time when the constructive arts had nearly had their fill of mediævalism, more or less pure and true in character. There was, therefore, no architectural school quite fit for the new alliance with the revived crafts. The Pre-Raphaelite painters, after exploring till they tired the valuable treasure brought to light from the older world, had in too many cases become frankly but sadly modern. Godwin, as we have seen, had progressed into eclectic and practical freedom; but the greater

number of architects who had drunk pleasantly and freely, but not too deeply, of the ambrosial stream, were now content to admire sketch and reproduce the picturesque and infectious forms of the half-developed and merely quaint works of the Renaissance, and were little more than architectural draughtsmen who enjoyed their precious facility of hand too freely. The possibilities of achieving monumental work in architecture without a grammar of form and tradition are so very limited, and the ease with which all the past historic styles can be utilised, by an imagination fertilised with a series of revivals, makes it the more difficult for an architect to divest himself of his even imperfect paraphernalia and commence to learn his building crafts as if in native naked ignorance. Therefore, as we have already seen, the comfortable doctrine of the beauty of all picturesque old buildings became an axiom of ease to the souls of the great majority of the descendants of the Gothic Revivalists.

There was no madness about the enthusiasm of Morris, in fact his was a singularly businesslike and well-ordered mind, and he possessed fine poetic temper in perfect control. All his work testifies to a sense of fitness and reasonableness that is satisfactory to the mind as well as to the eye. In the arts that he did not practise, as about political and social questions, his language had the stimulus of controversy, and strikingly stands apart from any conception of the man that might be based upon a cursory observation of his work. Hence it is perhaps that it has proved so difficult to extend principles which seemed obvious in his hands when dealing with decorative art, into the practice of architectural building, at all events widely, or to anything like the extent covered by the circulation and influence of his own particular productions.

THE INFLUENCE OF J. D. SEDDING.

The relation of the craft of bricklaying to the planning, contracting for, and erecting of the brick walls, that from the very circumstances of the day are integral to the buildings of our generation, is important above all things to the architect who designs and builds; but the occasions are rare when he can display or communicate the enthusiasm that he feels for really beautiful workmanship and quality either to the bricklayer, builder, or proprietor. Such occasions appear only to come to those who are fortunate enough in early life to have an easy-going client for whom a country house of not too great size may be built, and built by a country builder, who employs family workmen able to enjoy the local reputation that comes in a limited community to an artificer of humble but worthy work. Actually and generally, artistic enthusiasm for the craft and craftsmen of brickwork as building art and for artists in daily practice, is under the present conditions of civil life and business, almost impossible. The attainment of a commonplace standard of honest, sound walling is all that the architect in works of any magnitude or urgency can hope for, and there are not as yet symptoms of any development among the craftsmen themselves of an enthusiasm for the artistic possibilities of their work, which can be allied even in imagination with the tendency of the movement in decorative art stimulated by William Morris. It is claimed that the craft of masonry especially requires and opens itself to the enthusiastic student in actual work in and upon the material stone with chisel and mallet. There is doubtless a healthy stimulus to heart, brain, and arm in this, as in all manual labour, and sympathy with the worker and knowledge of the material and its craft-handling can only to the fullest extent be acquired in such actual manumission; but again the times and tide are contrary, the conditions under which the buildings in which our world is to live and work and which constitute its actual architecture are erected, almost reduce the part that an intelligent masonic craftsman can take in the conception and carrying out of the actual building of arch and vault, of story and tower, to the lowest proportion; he with his trained fellow-craftsmen in the other trades is an

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intelligent slave and little more—a slave to the architect's thought and intention, or to that of the "builder" only, whether for good or evil. Again the difficulty of achieving or predicting a revived craft of masonry—as of mediæval fame—seems insurmountable, despite the success of Morris in the more decorative branches of art.

But these difficulties have neither hindered the preaching of the doctrine nor the achievement of much interesting experimental work. The late J. D. Sedding was equally gifted with the necessary talent for both of these exercises. He had literary and poetic instinct, as well as training and experience in the best Gothic of the later Revival period, coupled with marked originality and freshness in design, parts which qualified him well for carrying an Arts and Crafts Crusade into the midst of the architectural world. His practical contact with the crafts closely allied to his ecclesiastical work as an architect, had doubtless drawn him to feel the force of Morris's teaching, as his embroideries, gold and silversmiths' work, and decorative designs had long given evidence of a sincere and enthusiastic manner. But his genius was lightened with so much boyish ardour and humour, that its infectiousness is no matter of surprise to those who knew him, and the great influence that his comparatively short working career exerted, testifies to the depth of affection he evoked in those brought in contact with him, who understood the brilliant vision, that seems so difficult and almost impossible of attainment to us, but towards which Sedding unhesitatingly leaped, of a living revival of the building crafts as a basis for all architectural design.

It is too early yet to estimate correctly the true position of Sedding's art, but its influence upon a group of architects is already clearly defined. Possessed of a new ideal, he felt himself to be set at liberty from the restraints of the authentic Gothic School, and expressed his manifest pleasure in the new-found freedom in some designs of striking originality. Accepted proportions were disregarded, and new combinations of parts and novel features were introduced which mark out the departure of his later work with increased energy in a new direction. It must be remarked that he did not forsake that to which he had then attained, as underneath the fervour for originality with which he was possessed, lay that foundation of architectural material and habit of thought which was the valuable deposit of the preceding school. This former training ordered and supplied his talent with necessary forms of expression; he indeed seemed reckless of it, and delighted in setting conventions at naught with the fanciful play of a subtle humourist in design, the serious side of his character being now bent upon the crafts which supplied beauty in his architectural scheme.

He succeeded in a remarkable way in this endeavour, obtaining assistance from artists and craftsmen all more or less imbued with the new teaching. Holy Trinity Church, Sloane Street, is the best illustration of his method. The general design aims at and achieves original impressions and effects, not altogether with certain success of scale and grandeur, but with the great interest of freshness in every part. The crafts are contained and displayed within the architectural enclosure of the building, and in the screen wall, pulpit, rails, gates, table and other fittings assert their presence and independence vigorously. The whole bears witness to the revival and new life of the subsidiary arts, and equally to the power and character of the architect's part of general director. But the new light to be derived from inspired building crafts is not really evident, as the conception and execution of the building itself are akin in all general formative principles and tendency to what had preceded it in modern ecclesiastical building.

We cannot stay now to consider how effective Sedding's influence became upon church furniture; he designed these objects with originality and power because he fully understood his material and its art in each case. His piquant mannerisms are nearly always apparent, and are forgiven for the sake of the man and of his delight in his own handiwork (though not

so easily in the case of his followers), while vigour and merry zeal are abiding qualities of pleasure in his drawings as in his speech, and in his executed work.

To Sedding's ardour must be attributed the ignition of other torch-bearers, who, aided by many original gifts of design and draughtsmanship, have considerably extended the scope of what may be called his school. These architects are good craftsmen, in charcoal paper and pastels—in fact, in all the resources of the architectural draughtsman's palette; and this is, to a very great extent, the sphere of their craftsmanship. Is it irony of fate, perversity of nature, or idiosyncrasy of genius which compels gifted draughtsmen and architects to become exponents of a doctrine which disowns draughtsmanship and avoids architecture? But it would seem that a rule of progression by retrogression has attractions in its quaint unreasonableness for over-strong minds.

The ultimate test of the revived craftsmanship will not be the designs of its architect prophets, but the works that they enable their craftsmen to erect. The attempt in drawing architectural designs for monumental buildings to veil by mysterious shade or powerful colour the technical effect of the actual work is an anachronism doctrinally, and an unconfessed admission of the irresistible impulse of the architect's hand to take pleasure in drawing for drawing's sake, in spite of the heresy or conscious hypocrisy of it, and perchance of the unfortunately sad necessity for screening the actual facts of the building with the aid of an artist's licence in accidents and fortuitous lighting.

AN IDEAL REVIVAL OF BUILDING CRAFT—ITS POSSIBILITY?

Of the actual effect in a monumental or public building of the new teaching we have not yet any serious examples, and indeed it can be foreseen that more than one generation may be required to give time for the raising of the craftsmen of intelligence and talent in each building trade having sufficient competency to think out steadily the development and application of their particular handiwork; if the desired end be not altogether Utopian on such a scale from such sources. But in a smaller class of buildings, in some interesting domestic instances, we find the enthusiastic architect more or less successfully breasting the tide and importing by the sheer force of his own character the interest of some one or other of the building crafts into his work. The application of the doctrine of craftsmanship is practically confined to the origination of ornament, in the absence of the architecture usually provided and applied for the purpose of so-called style and character. Ornaments in modelled plaster, in leadwork, in carvings, and in once-thought-to-be-trifling details are without much difficulty placed in the hands of intelligent artists in each material. The architect, if content to do only the planning and general supervision, allows the craftsman as much liberty as the employer can afford to pay for, with results interesting and pleasing from their freshness, and valuable for the fine work that can now be obtained from many accomplished and well-known craftsmen, the actual product of the tendencies that we have been describing.

But the major crafts of building construction are still outside the pale of their revived decorative sisters, and indeed are dependent upon the master architect's training, and upon his paper and pencil, for their usefulness or their beauty. The surrender to a general plainness in order to emphasise and supply a foil to an ornament or feature in a refined material is a proper exercise of architectural discretion, and in many simple cases the example is healthy rather than the reverse; but is there more artistic value at present to be obtained out of the ordinary constructive crafts? We observe the signs of revivification in subsidiary cases; are there not prospects and hopes for the greater ones? In mediæval times the brick-maker's and bricklayer's craft steadily developed by tradition, as in the Low Countries, and

achieved by slow but regular development a process of design that has left us works which we cannot but reckon as positively architectural. Is such alliance of interest in the ultimate production of beautiful craftsmanship in brickwork not possible with present-day intelligence, education, and trade organisation? And is not a potential effective brick architecture advancing from smaller to greater works in complete style awaiting us in the possibility? Similarly we see and know how stonemasons developed and maintained tradition and progress in their craft and mystery for generations throughout the land, until their accomplished vaultings traceries and mouldings are to us fit subjects for highly trained scientific study. Are not the causes and processes of this movement into life capable of repetition in a new day of light and progress?

As architects practising a necessary art for and by the generation in which we live, we have probably often asked ourselves such questions, and after sorrowful admission that the ordinary craftsman of the building trade was hopelessly destitute of inherent or artless art, proceeded to supply him with forms of stone origin development and beauty to execute in brick or wood, and have adorned with extraneous ornament, applied or inserted into the building, every surface or opportunity that might have offered advantageous exhibition to his simpler craft. It may be no wonder then, if bricklaying and masonry have ceased to be more than the financially satisfactory elements in a job to the builder. But in sincerer work, the architect whether he wills it or would have it otherwise, is compelled back upon himself and upon his own intuition and experience, for all discernment and expression of the material and its craftsmanship. Upon him devolves its elements in the general design, its application in detail, its unusual and peculiar description in the specification, and its abnormal and wearily patient supervision during execution. How painful and trying in all the greater building crafts this is, some of us continually learn afresh with each different building, builder, and locality.

The effort to realise the building as the result of a building art rather than of an exercise in so-called architectural style, if made on the part of the architect alone, in default of the executant craftsman, brings a renewing vigour to the process of design and pleasure of execution; the building grows actual in conception, in a sense beyond that conveyed by a perspective drawing, and the draughtsmanship of it is a very secondary element at the instant of design—though of course valuable as an art of its own in proper relationship. The architect at the present day is indeed the designer and master-craftsman causing and directing his forms as the product of his perception of building art in its origins and processes; content with its simplicity where dictated by contentment with honest workmanship; able still to extend and carry by intimate knowledge of completed development his conceptions to the highest attainment of material and construction; guided and kept true in instinct by practical sympathy with workmanship; and while still relying on himself as master-builder, brings his erstwhile knowledge of feature and form down to its essential derivation in original craftsmanship, chastening modelling and piling all into harmonious relation with his educated ideal of poetic architectural beauty. He goes backward to the status of the actual workman to bring his work forward to the point of true architecture. He abandons fictitious standards of picturesque prettiness, and attains sincere expression of the beauty developed in and allied to each material and labour, by perfect execution in workmanship, gracefulness in line, and proportion in the whole. No ornament or feature now satisfies him, because it is characteristic of "the style," that is characteristic in having nothing of that ineffable quality which is real style in building. The proportions which originate in the circumstances of the whole building or of its parts are as much the subjects of his legitimate fancy and conception of architectural power and beauty as ever, and the divine gift of

imagination fertilises them into ideals, to which his earnest study and delightful labour as the master-builder contribute the concrete form and beauty of detail. He is the architect, released indeed from pseudo-antiquarianism sketching, and the master-builder also, delighting in his building craft and designing with the end of expressing his delight in the wonderful resources of each and the sweet harmony of all the elements of constructive craftsmanship.

I trust that this is not the empty vision of an unpractical ideal, built upon untried possibilities or Utopian hopes, without examples or instances of achievement, destined to be deferred until the reformation of the British workman. There is for those who will seek it abundant encouragement in unlooked-for places; efforts sometimes crowned with conspicuous beauty that have been made by earnest men, profoundly dissatisfied with the prevailing want of true ideal, building upon the basis of building art, with simple and beautiful form, devoid of the shibboleths of style, and in many cases rising with them through the level of past art to new life and true modernity of beauty.

THE INFLUENCE OF WILLIAM BUTTERFIELD AND MR. PHILIP WEBB.

The work of William Butterfield, I am persuaded, is of this quality, and the genius will growingly be appreciated by which he discerned and seized the essential motive of mediæval building art, and forthwith strove to think for himself and express his own thought in his material for its modern purpose, with absolutely new art. His work has again and again been misjudged by the varying standards of the Gothic Revival in ecclesiastical art; its seeming defiance of antiquarian imitateness, or presumed lack of English feeling, the inability to class it with the work of current masters, its bravery, characteristic originality of proportion, and contempt for the conventions, have all and each made its classification almost impossible. But every student and critic has recognised that Butterfield's brickwork, at all events rejoiced in itself under his hand in all the known possibilities of the brickmaker's and bricklayer's craft; that his stonework knew and felt the liberty from limitation of which this material is so emphatically possessed, while his mouldings in tracery, shafts, or archivolts lack no knowledge of the finer subtleties and masteries of the art and mystery achieved by the mediæval masters; in every way all is as freshly modern as theirs was in its day. His ironwork, significant as wrought in emphatic straps and ties, as more so as cast-iron in plates, models, and framings, is a study of most instructive character and guidance for inquirers as to the tendency towards advance from barrenness to beauty in work of actual value as craftsmanship design.

In the field of domestic building the work of Mr. Philip Webb occupies a somewhat similar position to that of Butterfield, and demands the earnest attention of those who would seek encouragement from current buildings of real life and progress. Mr. Webb, like Butterfield, does not appear to us to have in any particular studied or expressed his buildings as a draughtsman, or from that very usual standpoint. It may be, and probably is the case, that the draughtsmanship required for the purpose of each of these master's buildings was as interesting and important as we should wish, but the work has its interest apart from the draughtsman-designer's conventions, and it is not conceivable that it would look better in a drawing than in fact. These buildings are and look well when perfect and new—saving the rawness of fresh execution, which in a few seasons passes away—possibly better than they may later on; at all events, we need no hesitating qualification as to the need of the softening and improving hand of time. They are what they are, for the purposes of their present users, and the master-builder's aims have been attained while his generation could enjoy them and appreciate the mastery that is complete in present achievement. Though not illustrated or exhibited, as is our wont, Mr. Webb's work has not

been restricted, and in internal detail and decoration he has for a long generation maintained the essential quality of the building craftsmanship of the architect's art, and been foremost in directing and giving tendency to the revival of the decorative crafts.

The houses in Lincoln's Inn Fields and Kensington Palace Gardens, known to most London architectural students, are excellent examples of Mr. Philip Webb's art. The former has been erected for wellnigh thirty years, but still marks a position in direct beautiful expression of artistic design and of reliance upon and mastery in the spirit of building craft, which is ahead of and beyond any subsequent similar work. The brickwork, masonry, and ironwork in this comparatively simple house front have each the indefinable character of style in treatment, and contribute to the originality of the whole, informed with that insight into mediæval craftsmanship that would make it worthy and significant building in any era and in any city.

The same aloofness from the current standards of architectural "style" has characterised Mr. Webb's work as Mr. Butterfield's, and to critics of antiquarian sympathy and purview only his work has been as difficult to classify; but there are now signs that his position is more widely understood, and the value of his almost unique standard of effective and beautiful craftsmanship design, recognised and followed.

THE SCHOOL OF MR. NORMAN SHAW AND OF MR. BODLEY.

The following of Mr. Philip Webb has been chiefly in his own domestic work by younger men, who might almost be classed as new, and by the descendants of the great school of Mr. Norman Shaw, that phenomenal champion of the later phases of the Gothic Revival, as also its effective seducer and destroyer, and yet again the renewer of positive affection for the once-despised later phases of the English Renaissance. Mr. Shaw's antiquarianism and delight in the picturesque, his enchanting re-creations of the decaying charms of the romantic mediæval England of bluff King Hal, his draughtsmanship, as bewitching to the young as the piping of the Pied Piper of Hamelin, are all too present with us to be yet correctly estimated. His grasp of the superficial beauty of old work has been combined with an equal internal completeness, and an amazing versatility qualifies him in later English Classic as in the earlier barbaric crooked Gothic. He seems to know and feel for each phase alike.

We would stay, if time permitted, and inquire why and how this genius charms. Is it the man rather than the work? The artist-architect or the architect-builder? The building that provokes the one question is promptly answered by another of the opposite tendency, and yet all are of one spirit. Is this spirit modern? or does it rise with the charms of the apparition of a departed beauty upon our dreams? or is it a living, nineteenth-century actuality, typical of our attainment in life and art? Let New Scotland Yard answer "The Wispers," and "The White Star" block at Liverpool, a whole series of sweet Georgian dignities, architectural echoes of the world of Thackeray's *Virginians*.

But Mr. Norman Shaw's school leaves us in little doubt. It has its master's tendencies without his enticements, and, with them, tends strongly to the severer craftsmanship methods of Mr. Philip Webb. The Georgian air stiffens with age, the classic tendency ceases, subtle originality by the hand of the craftsman sufficiently replaces the handiwork of the master, and there is harmonious progress along the line of domestic art. The group of architects who may be said to form this school are among the most earnest and successful present-day exponents of the craftsmanship doctrine.

It would be invidious to mention without some effort at completeness and illustration, which so short a review does not permit, either buildings or architects; but a significantly increasing school, with a widening area of results, is already in our midst.

In ecclesiastical art since the practical settlement of the Gothic movement, the hand of a few strong masters upon the helm has kept the ship's course from veering, and the acceptance of a late type, principally under the lead of Mr. Bodley, has enabled him, with his always complete and perfect sympathy for the crafts of religious art, to maintain a useful and effective guidance over nearly all the Church work of the Modern School. In his work, and in that of his immediate followers, there is a sense of satisfaction with the restrained and refined development of later Gothic and Perpendicular for which he has such feeling. The charm is wholly and confessedly that of perfected fifteenth-century art, revived with the completeness of the original, and infused with its motive and spirit. The crafts necessary to its completion and adornment have been sufficiently long in training and development, since the days of Pugin, to be helpful and not hindering to the architect; and with equal sincerity decoration, carving, stained glass, metal-work in gold and silver, and embroidery seem to have progressed to their acme. That this conforms with the ecclesiastical standard of those whose ideal is almost expressed in "the First Prayer-book of Edward the Sixth," is enough to justify its want of real modernity; it is, in fact, the product of the movement arising in Oxford under Newman with the Gothic Revival, and its tendency remains necessarily in our ecclesiastical art.

ALAS FOR CIVIL ARCHITECTURE!

Of our civil architecture, in conclusion, it would be difficult to speak at length. It is mostly promoted by competitions, which in their nature build upon the most superficial qualities of architectural study, design, and draughtsmanship. Earnest, serious work may be and is put into buildings designed in competition, as we well know; but the whole system has produced a habit of reckless originality, of tawdry picturesqueness, of ill-digested, unscholarly design, that is having an alarming influence upon the school of English civil architecture, which, it is sad to reflect, embraces the greatest extent of actual building work. It is melancholy, indeed, to be pessimistic about so great a matter, but the tendency is perhaps summed up best by the term "competition," with its special and subtle meanings to the architect. Few characters are strong enough to devote to one large work, when obtained in competition, the requisite patience to make it great by concentration of effort and refining thought—qualities for which there is no other remuneration than the estimation of brethren in art.

Here the lack of tradition and of a school of settled orders and proportions has the most damaging effect. We have seen that, apart from this, in domestic and ecclesiastical art we have survived the Gothic Revival and its repression of Classicism with some success, but in civil architecture our architects are sadly and truly demonstrating their demoralisation, and a solemn and discriminating criticism by Sir William Chambers on this subject would be a most wholesome and salutary communication to this Institute; but I fear it would be received with but polite amusement, so I dare not venture, though conceiving its tendency, to predict even the terms of his speech.

DISCUSSION OF PROFESSOR BERESFORD PITE'S PAPER.

The President, Mr. WILLIAM EMERSON, in the Chair.

MR. J. M. BRYDON, *Vice-President*, in moving a Vote of Thanks for the Paper, offered his personal congratulations to the author on his appointment as Professor of Architecture at the Royal College of Art. If eloquence and a knack of putting things in a very interesting way were

any criterion of the qualifications required for such a position, Professor Pite was one of the few men who possessed them to such a degree as to convince us almost against our will. As regards the Paper, which was headed "Some Tendencies of the Modern School of Architecture," it was, he

thought, first, a blessing to find that there was any school at all. And secondly, it was gratifying to learn that there was any tendency. If he might venture upon criticism, it seemed to him that the Professor had wandered somewhat from his text. Instead of a description of the Modern School of Architecture and its tendencies, his Paper was principally a criticism of the several revivals during the nineteenth century, and of the great men who took part in them. It contained a good deal of reference to the craftsmen, which was one of the modern tendencies, and to the want of style, which was probably another; but it still left them a little in the dark as to the tendencies of the modern school; except this: that all tradition was to be abandoned, and everybody was to do just what seemed good in his own eyes. Well, he was for all that, certainly. Wherever tradition was found to hamper a man, by all means let him throw it overboard; but merely throwing it overboard for the sake of throwing it overboard was not, in his estimation, likely to help a man much. Professor Pite had remarked that this was an age in which all proportion was discarded. If, for example, it would enhance the beauty of a column to dwarf it to the proportions of a sausage, or to draw it out to the proportions of a gas-pipe, let them do so; but he questioned whether the result would be an improvement of the column. Also, if it was thought to improve the entablature by omitting half of it, or by omitting sometimes the frieze, at other times the architrave, and occasionally dumping the cornice down on the top of the column—if that were the tendency, he questioned whether it was likely to improve one's sense of proportion or detail. Again, if it were considered an improvement to omit the volutes of an Ionic column, and merely put the abacus, and some little moulding under it, let them do so; but he questioned, if that was one of the architectural tendencies of to-day, whether it was a step in the right direction. Again, it used to be considered that a doorway should be somewhat higher than its breadth; but if now the doorway was to be wider than its height, as there was a limit to the width, and consequently to the height, a tall person with a hat on would have a difficulty in getting through. If that were a tendency of the Modern School he should certainly differ from that school. Another tendency was to provide bay windows where nobody could look out of them, and where they were not wanted. He would advise those whose tendencies were in that direction to go back to school a little longer and study what, for want of a better word, was called "tradition." Not in such manner were the works that we appreciate, like those of Sir William Chambers, Professor Cockerell, or Sir Charles Barry, designed and carried out. That was not the tendency that

guided those masters in the work which for all of us is a school of thought, a school of study, and a school of design, whether we be Gothic or Classic. He yielded to none in his admiration of the men the Professor had referred to: they were architects in the truest sense of the term; but they all more or less found out the limitations of so-called revivals. For himself, he believed that, if the tendency of the Modern School could be in the direction of taking up the thread of the old English architecture, which we broke in our attempt to revive an exotic which was Greek, therein would probably lie the foundation of an advance which might in this coming century be of great value and full of fruit to British architecture. It was appropriate to have had a Paper like this at the last meeting of the Institute for the century. If he might make a suggestion to Professor Pite, it would be that he should read them a critical review of the architecture of the nineteenth century, not so much from the tendency point of view, or the lines of the architects, but from the point of view of the real work that had been done. Possibly we are too near actual events and the actual works to classify them in their proper place; but the study is a most interesting one: how they meandered about from one thing to another, and at the end, to a certain extent, landed us in an architectural chaos; for at present everyone seemed to be groping about, and trusting to the help of what they called the crafts and the craftsmen to carry out more or less something which might be called a Modern School.

MR. H. HEATHCOTE STATHAM [F.], in seconding the Vote of Thanks, said he had some difficulty in saying much upon the Paper, because he could not quite understand what the author was driving at. The Paper had a great many interesting suggestions and criticisms, but he could not make out exactly what it advised them to do. With regard, however, to Butterfield's architecture, of which the Professor spoke with an admiration that he (Mr. Statham) quite sympathised with, it struck him as very remarkable that, although we have got tired of the majority of modern Gothic works which we see—for there are many Gothic churches all over the country that do not interest us much now—nevertheless Butterfield has continued to interest us. The simple fact was that although Butterfield was a Gothic man, he looked at his work in his own way, and always put something of himself both into the grouping and the details of his buildings. They are never mere revivals, but have something of original thought in them. In regard to competitions, Mr. Pite seemed to say that competition was the parent of the modern eccentricities of architecture. He (the speaker) did not think it was the cause of them; it was an opportunity for their exhibition. In every large competition some curious

and eccentric designs are sent in by architects in the hope of attracting attention to their own originality. He, however, had observed—and he had had a good deal to do with looking at competition drawings—that those eccentric designs were never accepted. The best chance in a competition was to send in a good plan with a tolerably conventional design on well-recognised lines. The committee would feel that to be safe, and would accept it as a thing which was quite right and would not land them in any difficulties. But the eccentric designs sent in were always unsuccessful; therefore it was hardly fair to charge competition itself with encouraging modern eccentricities. Then, as the reverse of eccentricity, there was the rage which was coming over the younger students of architecture for what he called ostentatious simplicity. He noticed that in two or three of the Royal Academy students' designs—the design for a town-house, for instance, from which everything that was usually called architectural ornament was absent—they were presented with a brick wall with plain windows in it. That was better than gimcrack; but surely there was some medium between gimcrack detail and no detail at all! It seemed that people, having got tired of the repetition of details from old styles, were now going to the other extreme and trying to do without any detail whatever. He thought that some attempt to continue, as Mr. Brydon suggested, the late English Classic style, and see what more could be made out of it, was one of the most hopeful lines; but it should lie not in trying to make that plain and severe style even more severe, but rather in endeavouring to carry on those good qualities and add a little new grace and a little newly conceived ornament to it.

Mr. H. G. IBBERSON [*F*.] said he should like to have the pleasure of supporting the Vote of Thanks to the author of the Paper, and also of congratulating him, and he might add the students, on his appointment to the Professorship. The whole of the Paper had been to him extremely interesting and very suggestive, and, so far as he was able to understand it, he agreed with it almost throughout. One realised very strongly the difference between the craftsmen of the decorative arts and the craftsmen of the more structural and simple forms. Work could easily be obtained from the former, full of true artistic spirit, beautiful and workmanlike. But as regards the ordinary building work, the brickwork, the stonework, and timber, one approached a job with a feeling of fear of what might have been perpetrated since the last visit. For it had been his experience that if anything had been left out of the detail to the will of the builder and his helpers, it was almost invariably and instinctively done wrongly. A modern tendency to extreme plainness referred to in the Professor's Paper had been treated somewhat unsympathetically by subsequent speakers.

Was not this absence of ornament a revolt from its excessive use? and might it not (in conjunction with the decorative crafts) in time produce a satisfactory "style"? At all events it was not a revival of any of the styles of the past!

COLONEL LENOX PRENDERGAST [*H.A.*] asked to be permitted to associate himself with the Vote of Thanks. It was the last occasion this century that the Institute would meet, and the works and thoughts which had been put before them that evening by Professor Pite were most appropriate to the occasion. It was always a difficult thing to make up one's mind when an absolute decision had to be made. As he understood the Paper, the question was: Have we, or have we not, made progress during the century in the art of which the Institute was the home? He was old enough to recollect the beginnings of the Oxford movement, and its corollary, the Gothic architectural movement. He recollected the fine Henry VI. chapel at Eton, with its old fifteenth-century roof, on which an architect must needs screw great cusps to its fine old beams in order to satisfy the Gothic mania of the time. He was old enough too to recollect when one of their past Presidents belonged to a firm called Scott and Moffatt—they would laugh at their work now. The history of architecture in this century had been gone into in great detail in the Paper, and he would not attempt to follow it; but he should like to say, as one who was not a member of the profession, that it seemed to him that the gist of it all was this: Who were the great men in the middle of this century to whom we could look? Within the last few days he had passed many hours in what he considered one of the most striking buildings of our time, viz. the Houses of Parliament. There they had the work of a great man! He unfortunately had not the benefit of hearing the most instructive Paper (though he had read it several times over) by Mr. Brydon on the history of Professor Cockerell and his work. There they had a great man, and a great tradition. He was inclined to associate himself with Mr. Brydon when he expressed the hope that the thread had not altogether been broken with that school. But in the course of Professor Pite's Paper they had traversed such an enormous field that one hardly knew where one was carried to. They had been taken to Queen Anne; they had been taken even to Mr. Morris and his wall-papers. But the real truth was that they must put up with all this turmoil of taste. Only they must not suppose that they could do with architecture as they would with millinery, or that Mr. Worth's desire for change was to be carried out because a lady of fashion willed it so. They must put their foot down somewhere, and there was only one way of doing it. The thread of tradition must not be broken. They must go back to the grammar of their art. They had unfortunately been led by

men of great eloquence and great literary power to believe that people were to do that which was right in their own eyes. They could not deal with architecture so. It had lasted for thousands of years, and we could not afford to break with the past.

MR. EDWIN T. HALL [F.] said he desired to speak on the subject because some previous speakers had said that they failed to see whither Mr. Pite was leading them. He thought the Paper was a very good exposition of the tendencies of modern architecture, and the text of it seemed to be this: that we should not be the slaves of style, or simply copy the old traditions; but should do as the great architects who produced those styles did, viz. think out our problems for ourselves, and, educated by the knowledge which they have given to us, we should proceed in the way that they did; not copying, because the great masters of Grecian art and of Roman art thought out their own problems and evolved their own styles, as did the great Gothic men. Mr. Pite in effect advised us to do what the thirteenth-century Gothic men did. They were not trammelled by style; they thought out their problems and how they could give expression to the sentiments which underlay the buildings and the purposes of the buildings which they had to design; and, after thinking them out, working on those lines, they evolved new styles. If they had taken the lines which Mr. Brydon suggested, we should never have had their glorious styles at all. Mr. Brydon talked about the dumping of the column to the size of a sausage, and the extension of it to that of a gaspipe. That was not in Mr. Pite's Paper at all, but those Gothic men did elongate their columns, in the form of shafts, to the length even of gaspipes, and yet by their masterly treatment of these elongated shafts they gave us beautiful columns and beautiful groups of work that had been objects of admiration from that time to this. Mr. Pite, in his able Paper, had treated them to a review of those modern men who had worked on the lines that he suggested. He talked of Butterfield and Burges—men who broke away from the absolute traditions of the proportions which were in the text-books, because they were men who thought out their problems themselves, and evolved beautiful designs. Again, Mr. Brydon suggested that we should take up the thread that was dropped and go on with it. He understood that to be exactly what Mr. Pite told them to do: Do not be bound by tradition, but take up the threads where previous masters had dropped them, not copying, but trying if we cannot evolve something by the same spirit that actuated those men. We must think out our own problems and try to deal with modern requirements—educate ourselves; but, having old proportions and traditions as a basis, work in the

present day with absolute truth, and try and do that which gives us the title to the name of architect, and that is, to build our own creations.

MR. E. W. HUDSON [A.] said that the Paper was more a retrospect of the changes of fashion in architecture than an account of the virtues and vices of the prevailing style (if such there be) of the moment. It embraced a wider field of thought than its title indicated. Professor Otzen had read a Paper at the Paris Congress which indicated some of the prevailing faults. Mr. Brydon had specified others. Neither the dumpy nor the "sausage" column could be defended as beautiful: the first-named was often a mere useless feature put in for effect. The elongated low doorway might perhaps symbolise at one point all the humility of the designer and be a counterpoise to much assertiveness elsewhere in the design. He owned to a fear that Professor Pite would not deal very gently with the Gothic Revival, for he remembered an allusion to it as the "corpsé" to which the late Mr. Street was chained. He (the speaker) confessed not to have lost faith in its potentiality, and wondered how anyone who had studied the *Dictionnaire Raisonné* thoroughly could say much as to the limitations of the style. It would be time enough to recant when advocates of what Mr. Seddon called "the exhumed mummy of Paganism—the Renaissance" offered something absolutely convincing. Hard names had been given on both sides, but it was not argument. He would like to make a few comments on the Paper. It was difficult to single out prominent names representative of the various styles dealt with in the Paper, many of the past masters in all having in turn been enthusiastically received in this room, when each put forward almost antithetical views to those of some other who preceded. It was significant that the name of William Burges was still applauded, which would no doubt be gratifying to the President as well as most of the members, and a testimony to the endurance of the work of a man who left far too little record in stone. The memory of Sir Gilbert Scott had been, he thought, not too generously referred to by one speaker, though all must regret the too thorough nature of his restorative prescriptions. The reaction, happy though late, went also too far, and besides this ultra-preservation, imitation was now resorted to where old buildings had no other beauty than that cloak which nature and time had generously thrown around the work to hide ugliness. It was impossible altogether to throw out tradition, though the artist's individuality might be shown in new work. The new work of Scott and men of his school was at least harmonious and consistent with the style adopted, and he did not see how it was more "fictitious history" than the work of those who condemned it; the only difference being that the latter took for types three or

four different epochs from three or four different countries, and what was in worst taste was called originality. He was afraid competitions did not bring the satisfactory results that one speaker suggested. The money available was crowded on to the front of the building. A recently-built tabernacle was a case in point, and the sides and rear elevation of it had nothing but a factory look. Spanish work seemed now to be admired, and might follow Dutch Renaissance, which had followed Queen Anne, as that had succeeded Lombardic, French, and English Gothic as types for inspiration. Some members would recollect the Paper by the late Mr. W. H. White on "Queen Anne" as she is depicted in architecture; and a photograph from the clever caricature drawing that he submitted might with advantage be over the desk of every student, as a warning of what to avoid. There was a tendency to overdo church decoration which he should like to emphasise, and the earliest instance he remembered brought up the name of the late Mr. Butterfield: everyone who could remember the chaste and noble church of St. Cross before polychromy was introduced would know the case he had in mind. Was the same thing not being repeated in that, or an equally detrimental way, in some cathedrals in our land? Another development of architecture not referred to was that which was arising in some of our colonies. In temperate climates wood was replaced by stone; in the torrid lands skill was being applied to adapt designs to climatic needs without creating travesties of the vernacular style. Members would remember some of the President's happy adaptations in our Indian empire. In Africa an enormous amount of work had to be done in that way, and there was as yet not much to rejoice at in that part of the world; but even Khartoum was looking up, and the new century might see wonderful results beyond all present ideas. Pessimism should give place to hope. London streets were very different from what they were in Ruskin's youth, when they evoked his severe diatribes. Still there was much to be done. What was to be the outcome of the review Professor Pite had given? How get out of the slough in which it is said we are floundering? Was any guide available? The Royal Institute of British Architects had but recently admitted the fair sex into its ranks—with much anxiety. Might it not be that to the ladies they should look for inspiration for the style of the twentieth century? Had the sex not in ancient and mediæval times been leaders in deliverance from difficulty? At all events, one lady had laid down the lines on which architecture should go forward and succeed. At the Paris Congress a lady delegate from Chicago expressed the needs of the art in these terms, viz.: "The giving up of classic and mediæval tradition (those

days of paganism and of slavery of men and women, of violence, fanaticism, and intolerance), and making architecture embody the things of modern sentiment: the liberty of man, the dignity of woman, respect for workmanship, love of justice, and universal peace." He would ask what man felt himself equal to this magnificent challenge!

MR. G. H. FELLOWES-PRYNNE [*F.*] congratulated Professor Pite on his ably-conceived, ably-written, and ably-read Paper. It was a Paper which set them all thinking, and one very appropriate to read at this time of the year, reviewing as it did the work of the past century, and starting them as it did with new thoughts for the new century. But there was one danger about it, viz. that certain expressions of opinion might lead some to think that the reader of the Paper would discourage the study of Gothic architecture. Unfortunately it was a fact that Gothic architecture was too much despised by many of the students of the present day. By despised he meant to say that it was not sought after, but rather barred in the sketching and study. He thought it a great evil that their studies should not be directed to the very groundwork of all Gothic architecture, but not necessarily to copy the style. For, unless we do build upon the foundations of the past, as in all other arts, science, and literature, he did not see how we are to improve. We shall certainly not improve by taking pure simplicity, or so-called simplicity, as our model. We are not gods, that we can create something out of nothing. We must consider, too, our limited powers of creation. We must consider that we cannot build safely without a sound foundation; and, if that foundation is the study of the spirit of architecture, both Gothic and Classic—a study not so much of actual rule, but of the spirit of the work of those periods—then we shall certainly be nearer gaining our end of getting a new style, or something towards a new style, than we shall by the so-called study of simplicity.

THE PRESIDENT said he should like to express the personal pleasure with which he had listened to Professor Pite's exceedingly cleverly worked out Paper. He confessed, however, to a little difficulty in arriving at what Professor Pite thought the tendency of architecture at the present moment to be. Colonel Prendergast had hit very happily on the tendency of modern architecture in his alliterative phrase "turmoil of taste." It seemed curious that there should be such a "turmoil of taste" at the present moment, seeing that, not only in Mr. Pite's Paper, but in all other remarks with regard to past architecture, the works which had been most admired had been those of men, whether in Gothic or Classic, who had most deeply studied old work, and followed on its lines. Their work had lived, not only because they had carefully studied the best of old architecture,

but also because they had put their own individuality into their work. It was perfectly certain that art was not confined to any one style. In the same breath were mentioned the works of Cockerell, Barry, Pugin, Butterfield, William Burges—entirely different styles of architecture, with entirely different feeling; and yet one found beautiful things in them all when the architects had designed with truth and personality. This "turmoil of taste," he thought, was caused a good deal by the very complicated problems which every architect had to solve at the present moment—problems which architects of ancient times had not to contend with. Thinking of what the architect had to arrange in one of the big buildings of this city, it seemed perfectly natural that he should come to the conclusion that neither Classic nor Gothic was altogether suitable to the problems he had to face. Maybe in the next century we shall find more fitting methods of expression for the peculiar problems of the time, perhaps by discarding the studied love of originality or eccentricity, and reverting a little more to the severer models of ancient times.

PROFESSOR PITE, in reply, said he had not thought it necessary to explain that by the Modern School he did not mean the future school. By the Modern School he meant the architecture current in the latter part of the present century. He had

attempted to review the tendencies, one after another, of the different parts of that school: the tendency of the "battle of the styles," the tendency to amalgamate, the tendency to develop the underlying crafts, and the tendency to throw over style altogether and do without it, and the more solid tendencies that have availed in ecclesiastical architecture. He entirely disowned any argument with regard to the future. With regard to Mr. Statham's remarks as to what he (the speaker) would have them do, he would refer the meeting to a most earnest and healthy study of Sir William Chambers. But he looked with terror—he looked with amazement upon any attempt to take up English architecture where it was left at the time of the Greek revival—he looked with positive alarm upon it. What were they to do? he was asked. They must get back themselves, he was afraid, and learn their alphabets, words, and syntax, before they could attempt to write poetry such as was written by the architects at the close of the last century. The future lay within the next century, and he could only hope that those who might stand in their places at the end of the twentieth century might have a more satisfactory review to make, though he was sure they would not have a finer range of work to deal with, or more striking exhibitions of personal talent and genius, than they had in looking back upon the latter half of the nineteenth century.

THE HIGHER EDUCATION OF ARCHITECTS.

By ARTHUR CATES [F.].

IV. THE DEPARTMENT OF ARCHITECTURE, HARVARD UNIVERSITY, CAMBRIDGE, MASSACHUSETTS, U.S.A.

IN the preceding articles, full details have been given of three typical systems of Architectural Education, now permanently established in the leading universities of America, each differing in some particulars, and even in principle; but all agreeing on the absolute necessity for the student to have received a thorough preliminary education before beginning the four years' course of special study, and also on the continuous study of drawing and design being absolutely essential.

The Institutions which have established these admirable courses are of comparatively recent origin, and in all, the department of Architecture has been a quite modern development and an addition to the original programme; beyond those described there may also be mentioned the University of Syracuse, N.Y.S., the University of Pennsylvania,

and the University of Illinois, as having similar departments, conducting similar courses of study, and aiming at the like ends, viz. the attainment of thorough education of the architect, in the best manner, and that most suitable to the circumstances of the locality and the people.

Nothing can testify more completely to the strong hold which the necessity for such thorough training has taken in the United States than the fact that the most recent addition to the Universities making a speciality of Architectural Education is the oldest in the States—of world-wide reputation and honour—Harvard University, which has within the last seven years established a department for that purpose.

The great institution now known as HARVARD UNIVERSITY was founded in 1636, by a vote of the

General Court of the colony of Massachusetts Bay, and £400 was then appropriated for that purpose.

The Court agree to give Four Hundred Pounds towards a school or college, whereof Two Hundred Pounds shall be paid the next year, and Two Hundred Pounds when the work is finished, and the next Court to appoint where and what building.

Before this resolve could be carried out, JOHN HARVARD,* a Fellow of Emmanuel College, Cambridge, who had emigrated from England in 1637, died at Charlestown on September 14th, 1638, and left half his estate, £779 17s. 2d., and his library of 820 volumes to the College: "Ordered to be at New Towne," afterwards named "Cambridge" in honour of the English University, where many of the founders of New England had received their education. In March 1639 "it is ordered that the Colledge agreed upon formerly to be built at Cambridge shall be called *Harvard College*."

The account given in "New England's First Fruits"† explains the object of the foundation to promote the principles of Divinity and Christianity, Knowledge and Godliness, furthering piety and morality, thus:—

After God had carried us safe to *New England*, and wee had builded our houses, provided necessaries for our livelihood, rear'd convenient places for God's worship, and settled the civill government: one of the next things we longed for, and looked after was to advance *Learning*, and perpetuate it to Posterity, dreading to leave an illiterate ministry to the Churches, when our present ministers shall be in the Dust. And as wee were thinking and consulting how to effect this great work; it pleased God to stir up the heart of one Mr. Harvard a godly Gentleman, and a lover of learning then being among us, to give the one halfe of his Estate (it being in all about 1700*l.*) towards the erecting of a colledge, and all his Library: after him another gave 300*l.* Others after cast in more, and the publique hand of the State added the rest: the Colledge was by common consent appointed to be at Cambridge (a place very pleasant and accomodate) and is called (according to the name of the first founder) *Harvard Colledge*.

The College thus piously founded has developed into one of the foremost institutions of learning in the world, and has become a growing and beneficial power in influencing the advancement of knowledge in America. It has in the faculty

of arts and sciences three departments under its direction, "Harvard College," "Lawrence Scientific School," and the "Graduate School," which comprise fourteen divisions and departments, covering all general subjects of education, including also the fine arts, music, and American archæology; and further special schools of divinity, law, medicine, dentistry, veterinary medicine, agriculture, and horticulture, with an arboretum, botanical garden, and herbarium, and an astronomical observatory; it has enrolled on its books more than 8,000 students, guided in their studies by 320 professors and instructors, occupies sixty distinct buildings, and has invested property to the value of over ten million dollars (£2,000,000 sterling).

Except freedom from taxation, no subsidy has been received from the State since 1814, and since 1870 the gifts and benefactions from private donors have averaged \$350,000 (£70,000) a year, while \$1,000,000 (£200,000) is received and expended annually for University purposes.

The Lawrence Scientific School was founded in 1847, taking its name from the Honourable Abbott Lawrence, of Boston, in recognition of a gift of \$50,000 (£10,000), and began with five students, increased from 181 in 1892 to 280 in 1893, and in 1897 to 411. The present departments of the school are—I. Civil Engineering; II. Mechanical Engineering; III. Electrical Engineering; IV. Mining and Metallurgy; V. Architecture; VI. Landscape Architecture; VII. Chemistry; VIII. Geology; IX. Biology; X. Anatomy and Physiology; XI. For Teachers of Science; XII. General Science.

Although it had always been contemplated that architecture should be included in this school, the department was not established till 1894, when it was made possible by the financial aid of Mr. Arthur Rotch, and by the contribution by Mr. James A. Garland, of New York, of \$8,000 (£600) a year for four years, towards the cost of the department, since the expiry of which grant the expenses have been met by the University.

Mr. Rotch at his death left \$25,000 (£5,000) for the new department, and other gifts have aided its progress. Last year a lady and gentleman, in memory of an only son—who died an undergraduate student in Harvard College—determined to erect a building and give an endowment to the new department. They have given \$150,000 (£30,000) for the building, which they will also completely furnish, and \$100,000 (£20,000) as an endowment for the care of the building and the increase and maintenance of its collections, and \$21,000 (£4,200) for immediate expenditure on additional equipment in the way of books, photographs, and casts—a total gift of £54,200 for this one object.

The Department of Architecture is thus a quite recent creation, having been first established

* JOHN HARVARD, b. 1607; d. 1638; born in High Street, Southwark, son of Robert Harvard. Entered Emmanuel College, Cambridge, 19th December 1627; B.A. 1631, M.A. 1635. In 1637 went to New England. Died of consumption, 14th September 1638.

† *New England's First Fruits*, in respect First of the Conversion of some, Conviction of divers, Preparation of sundry of The Indians; 2, of the Progress of Learning in the Colledge at CAMBRIDGE in Massachusetts Bay, with Divers other Special Matters concerning the Countrey. London: Printed by R. O. and G. D. for Henry Overton, and all to be sold at his shop in Popeshhead Alley, 1643.

as recently as 1894; and its organisers having enjoyed the advantages of studying the experience of the older colleges and schools, and also of it being an addition to the courses of the oldest university in America, where the grand resources in the field of the fine arts offered a good environment, the programme of instruction which has been adopted has especial interest.

It is closely allied to the Department of Fine Arts; and also, forming a branch of the Lawrence Scientific School, it has the great advantage of being able to draw upon the college courses as far as may be desirable; while the Scientific School itself affords the solid basis of practical training upon which the study of architecture as a profession must rest.

The work of the architect requires not only a technical knowledge of building processes and familiarity with architectural form, its history and use, but it demands wide intellectual sympathy, cultivated taste, and trained imagination. Such training and cultivation can most readily be obtained—or the impulse leading to it can best be given—by a carefully arranged college course. Those who intend to pursue architecture as a profession are therefore strongly advised to take, if possible, a full college course before beginning their technical studies. If this college course is carefully planned, it may be possible, if some of the professional studies have been anticipated, to graduate in architecture in two years after taking the degree of Bachelor of Arts.

Admission to the School is only to be obtained by the passing of a strict entrance examination, similar to that required for the University, and the average age of students entering is eighteen and a half years.

The subjoined table, which was prepared by Professor H. L. Warren in 1898, shows the comparative proportion of time given to study in seven institutions, and is explanatory of the details given in this series of articles.

The special instruction in architecture is given by Professor HERBERT LANGFORD WARREN, Professor of Architecture, and an assistant, a lecturer on the Theory of Design, an instructor in Architectural Drawing and Design, and an instructor in Modelling.

The courses in the History of Art are given by the Professor of Art and Director of the Art Museum, and by the Lecturer on Classical Archaeology.

The instruction in Mathematics, Strength of Materials, and Building Construction is given in the Department of Engineering, in courses specially arranged to meet the needs of architects, by two instructors in Mathematics and the Assistant Professor of Civil Engineering, and others.

A committee of four members is appointed by the Board of Overseers to watch over these courses.

Percentage of Time devoted to certain Groups of Studies in the Courses of Architecture at Seven Institutions.

INSTITUTION.	Date of opening of course.	Year of course.	Mathematics and Construction.	Architectural History.	Architectural Drawing and Design.	Freehand Drawing.	General studies.
Massachusetts Institute of Technology.	1869	I.	36.42	—	26.63	5.62	31.33
		II.	23.22	7	20.90	4.65	44.23
		III.	23.72	11.22	28.90	4.38	31.78
		IV.	8.90	8.04	47.96	14.95	20.15
Cornell University.*	1870	I.	17	—	50	17	16
		II.	—	17	50	17	16
		III.	25	10	50	—	15
		IV.	15	—	50	—	35
Illinois University.	1873	I.	42	—	8	25	25
		II.	42	—	8	8	42
		III.	10	30	50	—	10
		IV.	33	—	56	11	—
Columbia University.	1881	I.	18	10	35	25	12
		II.	10	10	48	20	12
		III.	30	9	38	18	5
		IV.	†	—	75	19	6
Syracuse University.	1889	I.	17	9	36	17	21
		II.	17	9	45	17	12
		III.	17	5	36	17	28
		IV.	15	4	45	18	18
Pennsylvania University.	1890	I.	18	11	31	—	40
		II.	22	10	22	8	—
		III.	20	12	50	18	—
		IV.	4	4	79	13	—
Harvard University.	1894	I.	22	13	40	10	15
		II.	20	15	40	15	10
		III.	10	15	50	15	10
		IV.	—	10	70	10	10

* These figures for Cornell are based on the course of instruction in force when this table was prepared. The present course is very similar in general proportion to that of Harvard, giving a large proportion of time to Drawing and Design.

† At Columbia students have the option, in the fourth year, of specialising in Construction or Design.

The instruction given is intended to afford the preliminary technical training required for the practice of architecture; as all such training must be supplemented by practical experience in an architect's office, students are advised to devote a portion of their summer vacation to that work.

In grouping the courses it has been recognised that architecture is essentially a fine art, the practice of which must be based on a thorough knowledge of construction; great stress has therefore been laid on continued practice in design and drawing, and thorough instruction in the history and principles of the fine art of architecture and the arts allied with it.

The curriculum is so arranged that professional studies begin in the first year and are continued through four years, and the most important may be described under these general heads:—

HISTORY.—The History of Architecture is taken in three successive years—the Technical and Historical Development of the Ancient Styles (Classical Architecture), of the Mediæval Styles, of the Renaissance and Modern Styles.

The first few weeks of the course are devoted to gaining facility in the simple representation of architectural form, with some study of the elementary principles of projection and perspective drawing, and shades and shadows. The gradual development of architectural forms and the technical processes of building are traced. The more important buildings are examined in detail, and the structural and æsthetic principles on which their design depends are studied critically. The course is so conducted as to make the greatest possible use of the library and to familiarise students with books and their use. Besides the lectures, the study is continued by the students making drawings, written reports, and theses illustrative of them; from time to time special subjects of research are given out which the students are expected to investigate for themselves, under guidance, by means of engravings and photographs, and upon which written reports are required.

The courses include the study of ornament and its history, and of the principles of ornamental design.

The endeavour is to study the history of architecture, not so much archæologically as in a more vital way with reference to actual practice; to obtain a knowledge of principles of design by an analysis of the growth of architectural form and its use. The buildings that are studied are regarded not as objects of contemplation or as historical elements, but as examples of various methods of work carried out under certain conditions. Architectural form and composition are thus studied by means of the history of architecture.

Courses in the general history of the fine arts are included, which enable the students to understand the relation of architecture to the other arts, and the relation of the art at different periods to their social and political life, without which knowledge the architect is not likely to use the forms of his art in an intelligent and scholarly manner.

DRAWING.—Students in their first year should give all their spare time to drawing; after some preliminary work, making a series of carefully rendered drawings of simple buildings, or parts of buildings, and of standard examples of each of the orders, followed by practice with pen, pencil, and brush, giving the student a careful training in the simplest method of expressing an architectural subject, whether a fragment of detail or a building. This is followed by the encouragement of individuality, and the study of the works of the best draughtsmen. Especial attention is then given to the composition of drawings, essential to the artistic presentation of architectural subjects, and for cultivating the sense of composition in architectural design. These courses give the necessary daily practice in freehand drawing which

alone will enable the student to obtain the knowledge of form and facility in its representation which an architect needs.

DESIGN.—This course is open only to those students who have passed satisfactorily in the technical and historical development of the ancient styles, and in architectural drawing.

During the first weeks of the course the student is occupied in making carefully rendered drawings from measurements of actual examples of architectural composition. The study of architectural design is then pursued—1. By lectures on the principles of design and planning; 2. By exercises in design from dictation, stimulating the memory and imagination of the student, and fixing in his mind the knowledge of form acquired in the first year; 3. By problems of an elementary nature, as exercises in original composition.

In the second course the study of planning is taken up systematically, and lectures are delivered on the right artistic treatment of the various materials used in building.

In the work in design the forms of classical architecture will be mainly used, as a mastery of technique and of composition can be best acquired by endeavouring to secure as complete a mastery of one style as the limited time will allow; but the problems will be selected with a view to stimulating as far as possible whatever imaginative or poetic feeling the student may possess.

The advanced course includes the study of the planning and arrangement of important buildings, and finally the complete design for some important structure.

The range and scope of the other sources of instruction may be readily gathered from the detailed statement following:—

COURSE OF INSTRUCTION

FOR THE DEGREE OF B.S., BACHELOR OF SCIENCE, IN ARCHITECTURE.*

FIRST YEAR:

Technical and historical development of the ancient styles.

Elementary architectural drawing.

Principles of delineation, colour, and chiaroscuro.

Trigonometry—trigonometric tables, solution of triangles, and application of the subject (*in first half-year*).

Analytic geometry—the straight line, circle, parabola, ellipse, and hyperbola, &c. (*in second half-year*).

Rhetoric and English composition—lectures, recitations, and written exercises.

German or French—one full course.

Experimental physics, for those who do not present it for admission.

* The Degree of Bachelor of Science *with distinction* is also conferred in three grades: *cum laude*, *magna cum laude*, and *summa cum laude*.

SECOND YEAR:

- Freehand drawing from architectural subjects with pencil, pen, and brush.
- Technical and historical development of the mediæval styles.
- Elementary architectural designs (*at least fourteen hours a week*).
- Elementary statics—graphic and algebraic methods, stability of structures (*in first half-year*).
- Elementary structural design—resistance of material, beams, columns, girder trusses (*in second half-year*).
- Descriptive geometry—elementary shades, shadows, and perspective (*in first half-year*).
- Stereotomy—shades, shadows, and perspective (*in second half-year*).
- English composition—exercises in the elements and quality of style, and practice in narration and description.
- German or French—one full course.

THIRD YEAR:

- Freehand drawing from architectural subjects, composition in light and shade.
 - Technical and historical development of the Renaissance and Modern styles.
 - Architectural design and the artistic treatment of materials (*at least eighteen hours a week*).
 - Theory of design, balance, rhythm, harmony (*in first half-year*).
 - Building construction—carpentry, floor trusses, staircases, &c.; lectures and drawing (*in second half-year*).
 - Masonry and foundations, materials, properties, preparation, cost, and application (*in second half-year*).
 - Geology and mineralogy of building stones.
- And one of the following courses:—
- Principles of design in painting, sculpture, and architecture.
 - History of Greek art.
 - The fine arts of the Middle Ages and of the Renaissance.
 - Private life of the Greeks, as illustrated by works of art.
 - Private life of the Romans, as illustrated by works of art.

FOURTH YEAR:

- Freehand drawing from architectural subjects, and their artistic presentation.
- Architectural design (advanced course) in the second half-year to be directed to a complete design for some important structure to be presented as a thesis for the degree.
- Modelling architectural ornament in clay.
- Contracts and specifications.

And two courses not already taken selected from the nine following:—

The five courses set out above as available for the third year.

Classical archæology.

Æsthetics.

Water supply and sanitary engineering.

Heating and ventilation.

The annual fee for this course of instruction is \$150 (£30).

Students in the course of Architecture may compete for the general scholarships open to all students of the school. In addition there is the Austin Fellowship in Architecture, annual value \$1,000 (£200), established in 1899, open to competition to those who of their own means are not able to bear the expense of a year's study abroad. Candidates must be Bachelors of Science in Architecture of Harvard University of not more than three years' standing, and must have taken the degree *with distinction*. The award is made as the result of a competitive examination in the history of architecture and in design, that in history being on a special period to be selected by the candidate in advance, that in design on a problem proposed, the preliminary sketches to be made in eight hours under the supervision of an instructor. These sketches are retained by the Department for comparison with the final drawings. The final drawings must be prepared in three weeks, without aid, direct or indirect, from other persons. The successful candidate will be required to spend at least one year in travel and study in Europe under the general direction of the Professor of Architecture, to send monthly reports of his progress, and at the end of each half-year a measured drawing of some approved monument of architecture, and during his stay in Europe to make a special study of some building, or group of buildings, and on his return must present a written essay, illustrated by drawings, embodying the result of his studies.

In addition to the special library of the Department, the students have free access to the large and valuable collection of works on architecture and the other fine arts in the University Library.

A new building has been commenced from funds given anonymously, and will be opened next autumn, to be devoted to the exclusive use of the Department of Architecture, which will provide ample accommodation for one hundred students. It will include a large drawing room (about 140 ft. × 30 ft.), a smaller drawing room, a lecture room (55 ft. × 30 ft.), a hall for casts (55 ft. × 30 ft., and two stories high), other rooms for lectures, freehand drawing, modelling, and exhibition, and the library (30 ft. × 40 ft.).

The Pen and Brush Club (founded 1895), of 32 active members, issue an annual, "Examples of Work from the Department of Architecture, Harvard University," giving specimens of the work done in each of the four years, thus affording an annual standard for appreciating the progress made in advancing the study of the art.



9, CONDUIT STREET, LONDON, W., 22nd Dec. 1900.

CHRONICLE.

The New Professorship, Royal College of Art.

At the meeting last Monday, prior to calling upon Mr. Beresford Pite to read the Paper printed on foregoing pages, the President reminded the assembly that Mr. Pite had had the honour of being chosen by the Board of Education to fill the newly created Chair of Architecture at the Royal College of Art, South Kensington. The President said he felt sure the Institute would desire to take advantage of the opportunity the occasion afforded to offer its congratulations to the Professor. The Meeting warmly signified its assent, and Professor Pite briefly responded.

Obituary.

MR. FRANCIS CHAMBERS, who died on the 30th ult., was elected an Associate of the Institute in 1851, and Fellow in 1865, and served for a time on the Council and on the Statutory Board of Examiners. He held for a long period the appointment of surveyor to the Cannon Brewery Company, of St. John Street, Clerkenwell, and was frequently called upon to act as arbitrator and as assessor in competitions. After the dissolution of his partnership with the late Richard Tress, he practised for many years alone, carrying out many large riverside offices, warehouses, and premises of a similar description on both sides of the Thames. He also designed and carried out two churches at Norwood. His son was afterwards associated with him in practice, and the firm recently prepared plans and designs for ten blocks of working-class dwellings, to house 1,776 persons in 888 rooms upon a site of two acres, near Southwark Park Road, Bermondsey. Mr. Chambers was 71 years of age.

MR. JAMES BUCKLEY WILSON, of Swansea, whose death occurred on the 6th inst., at the age of 54 years, became an Associate in 1872, and Fellow in 1888. He was educated at Lansdowne College, Bath, and served his articles with Messrs. Wilson & Wilcox, of that city. In 1883, after a prolonged sketching tour in France, Spain, and Italy, he started practice in Swansea. His principal early works included the restoration of churches

at Loughor and Berry-Narbor, near Ilfracombe; the chancel of Penllergaer Church, co. Glamorgan; Bryn-y-Caeran Castle, at Llanelly; and the Parish Hall, Llanelly. In 1888 he went into partnership with Mr. Glendinning Moxham, and the firm thus constituted were responsible for a large number of important buildings in Swansea and district and other parts of Wales, including hospitals, churches, banks, schools, vicarages, private residences, &c.

MR. JOHN BUTLER, who died on the 6th inst., aged 72 years, had been a Fellow of the Institute since 1887, and was connected with various other public bodies. He was a Fellow of the Royal Geographical Society, Member of the Society of Arts, Member of the Japan Society, Member of the executive committee of the Commons and Footpaths Preservation Society, Councillor for the Borough of Kensington, and Commissioner for the Kensington Public Libraries. Mr. Butler attended the first meeting, and became a member of the Society of Architectural Draughtsmen, now the Architectural Association.

At the moment of going to press, news reached the Institute of the death, on the 14th inst., of MR. HORACE GUNDRY, *Fellow*, elected in 1877. Mr. Gundry passed the examination qualifying for the office of District Surveyor in 1870, and since 1874 had held the appointment of District Surveyor for Paddington.

Gas Geysers in Bath-rooms.

A correspondent writes with reference to the recent death at Hammersmith from carbon oxide poisoning in a bath-room where the water was heated by a gas geyser:—"The reports do not state the one important point, viz. that the geyser was *not* supplied with a ventilating pipe. It is stated that the apartment measured 256 cubic feet, and that the doctor said that the space should not have been less than 700 cubic feet. In the public interest it is of immense importance that the matter should be clearly understood. Of course, if a room is of sufficient cubic contents, the poisonous fumes from the gas would have proportionately less effect, though even in a room of 700 cubic feet dimensions it would not be very safe to use such a quantity of gas without a ventilating pipe; but the fact is that the majority of bath-rooms are, and must always be, of small dimensions. It is, therefore, absolutely necessary to insist that no geyser should be fixed in a bath-room without a separate pipe to convey the fumes outside the apartment. It is not sufficient to insist that the bath-room must be ventilated, because all ordinary ventilators can be easily closed, and any careless bather feeling a draught would take upon himself to close them while bathing. The question, again, is not one of the difference between a luminous flame and a Bunsen burner. If there is any difference in the mis-

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chievous power of one flame over the other, it is so little that it does not affect the question. Every gas flame throws off injurious products. The very usefulness of a geyser depends on the fact that it consumes a large quantity of gas in a very short time, consequently there must be a large escape of poisonous fumes. There is no other way of using these machines safely, except by fixing a separate fume pipe to every geyser."

REVIEWS.

SHROPSHIRE CHURCHES.

An Architectural Account of the Churches of Shropshire, by the Rev. D. H. S. Cranage, M.A., F.S.A., illustrated with Photographs by Martin J. Harding, and Plans by W. Arthur Webb, A.R.I.B.A. Part 4. The Hundred of Stottesdon. 40. Wellington. 1900. [Messrs. Hobson & Co., Wellington, Shropshire.]

It is about six years since we welcomed the appearance of the first part of Mr. Cranage's survey of the Shropshire churches, so the authors are pursuing their task with a steady deliberation which we trust makes for accuracy and completeness. Stottesdon Hundred does not contain any churches of first-rate importance, or with a reputation outside of their own county, and of the thirty-five churches here described the authors have only thought it worth while to give plans of six, namely, Alveley, Chelmarsh, Cleobury Mortimer, Kinlet, Morville, and Stottesden. To these churches also belong the majority of the other illustrations.

Mr. Harding's collotype plates have considerably improved in the quality of clear definition (shortcomings in which we alluded to in noticing the first part of the work), and several of them form very good architectural representations. One of the most interesting, as well as one of the best executed, is the illustration of the tomb of Sir George Blount (died A.D. 1581) in Kinlet Church, eulogised by Mr. Cranage as being "without exaggeration one of the finest Elizabethan monuments in England." For quaintness of effect, produced by an evenly disposed mixture of English and Italian details, this design is certainly almost unsurpassable; but its entire lack of repose leaves a very unsatisfactory impression.

In his painstaking investigation of the evidences of the structural history of the buildings concerned, Mr. Cranage shows as much energy and discrimination as before. The result is a most thorough, and in many respects an exhaustive, description of every church visited; so that the book under notice may be recommended as a valuable model to everyone engaged in similar researches, besides being indispensable to residents or visitors interested in the history or architecture of the district actually described.

ARTHUR S. FLOWER.

CARLISLE CATHEDRAL.

The Cathedral Church of Carlisle Cathedral: a Description of its Fabric, and a Brief History of the Episcopal See. By C. King Eley. Price 1s. 6d. "Bell's Cathedral Series." 80. 1900. [Messrs. George Bell & Sons, York Street, Covent Garden, W.C.]

Perhaps the most remarkable fact about the remains of Carlisle Cathedral is that they consist of the fragments of two distinct and separate buildings, differing in style, character, and scale, built of stone of different kind and colour, erected at times widely apart, never meant to be united or seen or used together except as a temporary expedient; and, what is perhaps more remarkable, intended in their conception to hold a like position in the two buildings of which they actually did or were intended to form a part. The one, that to the west of the tower, consists of the two eastern bays of the nave, which, as was commonly the case, formed the choir of the Norman church; whereas the other, the later building to the east of the tower, consists of a choir commenced in the thirteenth and completed in the fourteenth century, and intended to form the first instalment of an entire rebuilding of the church. Of this Norman church Mr. Eley tells us in his monograph that the details of its founding are very precise and clear, and, as the older histories have it, that it was founded in the reign of William Rufus; but the later evidence goes to prove that the ecclesiastical development of Carlisle is due, not to William Rufus, but to Henry I., who founded a house of Austin Canons about the year 1123, and also goes to verify the statement of Mr. King (Murray's Handbook) that "ancient authority for the architectural history of Carlisle Cathedral is so scanty that it can hardly be said to exist at all." Its remains Mr. Eley treats as an ordinary type of a Norman church of moderate size. It however possesses some remarkable features which perhaps cannot be thoroughly deciphered without some use of the spade. It is well known that one characteristic of building is the nature of the walling, which is shown to a great extent by the thickness of the walls; also that in pre-Norman work, a lingering tradition of Roman work, thin walls prevailed; that in Norman work, a fresh and more vigorous outburst of building in the Roman manner, thick walls prevailed; and that the building of the one and of the other required a totally different training to achieve, the former requiring almost as much experience as in building the dry walls which still prevail in many districts of the North, the latter depending entirely on the quality of the mortar. It is very rarely, therefore, that in a building of one date you find, as we do here, walls of such an extraordinary difference in thickness. Those of the transepts are of the ordinary normal thickness of the period, and those of the aisles are thin, even for pre-Norman work such as is found in the remains of the foundations of the pre-Norman

churches of Peterborough and elsewhere. These aisles have evidently been built from a plan which took for granted that they would be vaulted, for there we find the rational provision for vaulting in the vaulting shaft on the inner side of the aisle wall, for a vault that in this case was never carried out and could not have been supported on so slight an abutment. This seems to support the view that, even though the building was locally done, the plans were supplied from some advanced centre, probably under the auspices of the great chapter of the Austin Canons. It is further to be noticed as evidence of the influence of local workmanship in a stone country, with its Scottish or Irish artisans who built not in the Roman manner, that whereas in central London, in a building erected for a similar community of Canons for the same purpose and about the same time, you find in the concrete of the soffits of the arches evidences of the Roman manner of building—and the same method is still more evident in the great Keep of Carlisle hard by, built by foreign artisans, Flemings specially sent to do the work—in the remains of the Norman church of Carlisle the construction is stone throughout. The remains of the wall of the early apse of the northern transept, with walls about four feet in thickness when uncovered, showed this very clearly, the stones being practically bolted to each other through the entire thickness of the wall. No doubt, at the time, this was looked on as the best that could be done locally by a distant colony; but what was then done in the infancy of building in stone came to stay; and before a few years were over building in the constructional manner of the Romans had ceased, and the rise of the artisan and the building in small stones which he could handle—what we now call Gothic architecture—had taken its place.

Although we have various statements in Mr. Eley's book as to the plan of the Norman church on very high authority, he does not himself appear to have come to a conclusion as to what that plan was. On the one hand, he accepts the straight faces of the east and west arches of the tower as evidence of the position of the choir of the Norman church; on the other, he refers the choir to the east of the tower. It is now generally accepted that this Norman church followed the normal plan of that time; that it possessed no choir eastward of the crossing, but that the eastern arm formed a sanctuary only; and that, as was constantly the case, the choir was provided for in the two eastern bays of the nave which now remain; and thus it is that the Cathedral Church of Carlisle consists of two choirs of different churches without a nave.

If, again, you refer to the plan, you find that the western wall of this fragment of the nave is enclosed by a wall of about five feet six inches thick. This wall is stated by the earlier local historians of the building to be a wall run up in

a hurry to shut off the ruins of the nave to westward of it, and this at a time when a raid of our friends over the border had brought great destruction and poverty upon the place. Now, in its every feature, its thickness, its position slightly to the westward of the piers it abuts upon, it shows itself to be the lower portion of the pulpitum enclosing the choir of the Canons, and this is now the generally received opinion. Evidence is to be found in the older guide-books of the central doorway within it which gave access between the reredos and the pulpitum to centre of the choir. This pulpitum, following many an ancient precedent, was in the straitened circumstances of the time built up so as to form a complete enclosure to the curtailed church; and into that area the parish church of St. Mary was eventually transferred, not by any permanent enclosure, but by the thinnest and most temporary of partitions and the most colossal and substantial of plaster ceilings. I have no personal knowledge as to the extent of the eastern arm of the Norman church, but it looks as if the first eastern arm of the Norman church had itself been rebuilt and extended in Norman times, as was done in other churches in the diocese. Its foundations, no doubt, are still underground, to reward the researches of a future antiquary. Be this as it may, in the thirteenth century an entirely new eastern arm was commenced, as described by Mr. Eley, not only larger than the former building, but on the scale of the largest churches of the time—intended, I think the evidence shows, to be but the first instalment of a complete rebuilding of the church in like character and size. Of this thirteenth-century choir more remains than Mr. Eley gives credit for, for he states that everything was destroyed except the outer walls of the aisles. There can, I think, be little doubt but that the aisles remain complete with their vaulting from end to end as far as the eastern bay, which is of later date, with this not unusual addition—that the thirteenth-century piers, of which one alone remains at the junction of the north aisle with the north transept, were either underbuilt or recased in that careful way in which the earlier builders were so skilful. The church of Beauvais is a standing example of what could be done in that way. At Carlisle we find the columns of the fourteenth century (one only of the thirteenth, to which I have referred), a most admirable arcade of the thirteenth century, and above that, where great thickness was required for the clerestory and its passage, we find the later portion of the wall reduced in thickness by some six or seven inches. Notwithstanding the fact that they were, in the building of the choir, able to add an extra bay in length to conceive and carry out the great east window, the building of this thirteenth-century choir fell on evil times. No sooner was it roofed in—of which fairly good evidence exists—than it fell a prey to the scourge of early builders, the fires fed by the

wood buildings and thatched roofs of the towns, and all had to be begun again. All this is told in Mr. Eley's guide, but he apparently failed to realise the pathos of this constant rebuilding, these repeated disasters, the distress of poverty in this distant colony, of wars and of the results of war, so that it took them upwards of a century and a half to complete the choir. As the Bishop of London says in his account of Carlisle: "The time which the men of Carlisle could give to peace was never long." But throughout the repeated disasters of their great undertaking they never ceased to aim at the noblest type of work. Their earliest church was a humble pioneer in the art of building, and in the later work its great east window, to again quote the Bishop of London, marks the highest point of grace and beauty attained by the architecture of the Decorated style. The skill of the sculptor was employed to carve the newly added capitals of the choir, and set out thereon a representation of the months of the year, the whole presenting a picture of the rural England of its time. The carving of the corbels of various dates, especially those of the choir of Decorated date, show that they were executed by skilful hands with remarkable grace and vigour. The woodwork of the screens and stalls is worthy of note—the former of most delicate Late Gothic, whilst of the later spirited work of Renaissance time we have the screen of the north side of the choir, of which an illustration is given by Mr. Eley. The stalls referred to by him as of black oak, but blacked however by artifice, are very complete and perfect, except for the loss of the figures, and fine examples of this class of work. The exquisite ancient glass still remaining in the head of the east window, and the little relic of painted furniture in the painted cupboard of Prior Gondibour still standing in the north aisle, all point to the strenuous endeavours of the builders in their great undertaking to aim at the highest standard of work. I need not follow in the later treatment of the building the final giving-up of the later church and the more modest endeavour to make the best of what remained to them.

The illustrations of Mr. Eley's book are somewhat indiscriminately selected, for the drawings of the late Mr. Billings, admirable as they are, were executed some eighty years ago, and show the modern additions and ancient work with equal precision; and in some cases hardly give a fair impression of the building, for they show the noble choir that took upwards of a century to build as groined in the manner of the aisles. A groining truly there was, but a groining of lath and plaster, held together by iron ties, which hid the remains of the ancient wooden roof and formed no part of the structure. Again, it was hardly desirable to insert a photograph of a Norman door which is a modern insertion of the early part of this century of the poorest class of

masonry. There may be some interest, perhaps, in showing how modern buildings were allowed to grow up round the east end of the church, but it should be made clear that for nearly half a century they have ceased to exist. The many quotations from Mr. Billings would have been better marked, as they hardly represent the evidences of to-day.

Mr. Eley at the close of his book gives a short notice of the Castle and its Keep, but he fails to call our attention to its truncated condition, as altered by Henry VIII. to carry cannon. I am indebted to my friend Mr. Hartshorne for the discovery that the same ingeniator who supervised the works carried out by Henry VIII. at Sandown Castle, by Deal, went from there to Carlisle and cut the head off the Keep, and so reduced it by a story in height.

Carlisle.

C. J. FERGUSON, F.S.A.

MINUTES. IV.

At the Fourth General Meeting (Ordinary) of the Session, held Monday, 17th December 1900, at 8 p.m., the President, Mr. William Emerson in the Chair, with 26 Fellows (including 9 Members of the Council), 28 Associates (including 1 Member of the Council), 3 Hon. Associates, and visitors, the Minutes of the Meeting held 3rd December 1900 [p. 60] were taken as read and signed as correct.

The following members, attending for the first time since their election, were formally admitted and signed the respective registers—viz. Louis Ambler, Thomas Phillips Figgis, Herbert George Ibberson, John William Simpson, *Fellows*; Charles Heaton FitzWilliam Comyn, James Ernest Franck, William Herbert Swann, *Associates*; Frank Newton Jackson, *Hon. Associate*.

The decease was announced of the following members—viz. John Butler, *Fellow*, and James Buckley Wilson, *Fellow* (Swansea).

The following candidates for membership, found by the Council to be eligible and qualified under the Charter and By-laws, and admitted by them to candidature, were recommended for election—viz. As FELLOWS, Walter Aston (Manchester); Frederick Oscar Oertel [A.] (N. W. Provinces, India); and Thomas Bostock Whinney [A.]; as ASSOCIATE, Frederick Milton Harvey [Qualified 1900] (Great Yarmouth).

On the motion of the President, the congratulations of the Meeting were accorded to Professor Beresford Pite [F.] on his appointment to the Chair of Architecture at the Royal College of Art, South Kensington.

A Paper by Professor Beresford Pite, entitled A REVIEW OF THE TENDENCIES OF THE MODERN SCHOOL OF ARCHITECTURE, having been read by the Author, and discussed, a Vote of Thanks was passed to him by acclamation.

The proceedings then closed, and the Meeting separated at 10 p.m.

Erratum.—Mr. C. H. Brodie [A.] points out an error in the report of his remarks at the meeting of the 3rd December, on the proposed amendments in the Form of Building Contract. The latter portion of his second sentence on page 65 *ante* should read: "the present Conditions of Contract do not force the contractor to carry out any *extra* works at all." The word "*extra*" was omitted in the report.



ROCHESTER CATHEDRAL.*

THOUGH one of the smallest of our minsters, Rochester Cathedral is unsurpassed in archæological interest. It simply swarms with puzzles, anomalies, and aberrations. At the very outset, in its pre-Conquest work, it presents us with an insoluble problem. Peterborough has underground one Saxon church; what is Rochester doing with two? And when the Norman building was commenced under Lanfranc and Gundulf, it was not on the regulation Norman plan, either of Normandy or of England. It was neither a "chevet" church, like Gloucester, nor on the triapsal plan of the Normandy churches. Again, while everywhere else a transept consists of a nave turned north and south, the transept of Gundulf's church was but the return of an aisle, for it was not more than 15 feet broad. So that it is likely that one and the same pier-arcade ran on uninterruptedly from west door to east end. And the east end was square, with a little chapel projecting eastward. Without going as far as Tournus or Issoire, we may probably find a parallel for the eastern chapel in the eleventh-century east end of Hereford. One can come to no other conclusion than that, though Norman prelates found the money, English builders furnished the plan. If so, that plan is of exceptional importance, for every one of the larger of our pre-Conquest churches has been destroyed; and though we have elaborate descriptions of Ramsey, Winchester, Hexham, and others, they are too vague to be of value. It is probable, then, that we have at Rochester, and here only, the plan of an Anglo-Saxon church of the first rank. Secondly, Rochester possesses the distinction—perhaps the unenviable distinction—of being the only cathedral without a triforium. That of the nave is but a sham, like that of Vignory, the aisle having no vault. The eastern aisle of the eastern transept is indeed vaulted; and here a triforium was perfectly practicable. But no; the bad tradition of the nave was followed, the space above the aisle-vault was turned into chambers. Professor Willis, as quoted by Mr. Hope on p. 28, seems to have thought that the absence of vaulting in the aisles of the nave was a following of the design of St. Stephen's, Caen. There seems to be some mistake here; that church had a vaulted aisle, and the triforium had windows in the back-wall, as at Peterborough. It is La Trinité, according to Ruprich-Robert, which had a one-story unvaulted aisle.)

The rebuilding of the eastern limb of Rochester Cathedral was due to the offerings at the shrine of a pious Scotch baker, murdered in 1201, and converted by the monks into a miracle-working saint. It was in the same year, 1201, that the body of St. Wulfstan at Worcester, after lying dormant for a century, commenced to work miracles and to attract pilgrims and offerings. These two designs, therefore, are exactly contemporaneous; they are

* *The Architectural History of the Cathedral Church and Monastery of St. Andrew at Rochester.* By W. H. St. John Hope, M.A. 8s. Lond. 1900. [Messrs. Mitchell & Hughes, 140, Wardour Street, W.]
Third Series, Vol. VIII. No. 5.—Jan. 12 1901.

very closely alike in plan, and should be studied together. But Worcester, as was natural, has the best work. For Gothic, to my mind, started in the west country; its cradle was Wells; the sculptured capitals of Wells and Llandaff and Worcester are, in design and execution, far ahead of Early English work elsewhere.

When presbytery and choir were finished, the monks muddled about in what now seems the most perplexing fashion. Take the north-eastern pier of the central tower (fig. 18 of Mr. Hope's book); first, four southern shafts were built; then, after an interval, two more to the west; then, after another interval, nine more to the north. Three or four parts of the church seem to have been rebuilding about the same time; sometimes work was being done in one part, sometimes in another. In the end the cathedral never got finished at all. Only the two eastern bays of the nave were rebuilt; the south aisle of the choir was cleared and enlarged, and prepared for a central stalk and vault—which was never put up. The choir of the Lady Chapel was designed for a fan-vault, but no vault was ever built.

In Rochester Cathedral, therefore, Mr. Hope has found a subject that needed all his acumen and erudition. He has had valuable aid in the memoranda of that very competent and accurate observer, the late Mr. J. T. Irvine, clerk of the works in Scott's restoration, and of Mr. Livett, who has done good work here as at Southwell. Mr. Hope himself, during a residence of four years at Rochester, was able to make important excavations. The result is a work of real learning and ability, which represents decidedly the high-water mark which has yet been reached by English archæology. It reflects as much credit on English archæology as on the author. Anyone who examines and tests it will unite in saying that the author "*exegit monumentum ære perennius*." Every possible documentary source has been examined and tested; everywhere one feels in the presence of one who has lived among mediæval literature and mediæval ritual. Specially interesting and important is the excursus (p. 217) on the Sunday procession. In addition to forty-five plates and illustrations, there are five very large folded plans in colours: and when I mention that twelve different colours are employed to distinguish different building-periods, it will be seen with what ungrudging thoroughness and care the history of the cathedral has been investigated. It has been said that to take down Willis's book to Canterbury, and study that cathedral book in hand, is a liberal education. We may add that to continue that education nothing could be better than to take Mr. Hope's volume, with its invaluable plans, and study on the spot the far more complicated and perplexing history of the growth and development of the cathedral of Rochester.

FRANCIS BOND.



9, CONDUIT STREET, LONDON, W., 12th Jan. 1901.

CHRONICLE. ANCIENT LIGHTS.

Report of the Joint Committee of the Royal Institute of British Architects and the Surveyors' Institution.

The following Report has been adopted by the Council of the Royal Institute, and intimation of such adoption has been conveyed to the Council of the Surveyors' Institution :—

WHEREAS by a Resolution of the Royal Institute of British Architects, passed at the General Meeting of the 9th April 1900, it was decided :

That this Meeting considers an alteration in the law of Ancient Lights to be urgently needed, and requests the Council to put itself into communication with the Council of the Surveyors' Institution without delay, with a view to the co-operation of that body in taking such steps as may be necessary to secure an amendment ;

And whereas the Surveyors' Institution, having been invited so to do, agreed to act in conjunction with the Royal Institute and to appoint a Committee to deal with such matters ;

And whereas a Joint Committee, consisting of the undersigned, have held meetings and have carefully considered the subject of the above reference ;

And whereas such Joint Committee are of opinion that the law and practice of Ancient Lights is exceedingly unsatisfactory in several respects and requires amendment in the manner herein suggested :

Therefore the Joint Committee recommend that the law and practice in respect of Ancient Lights be amended as follows, viz. :

1. The right to ancient lights shall, in all cases where such rights have not been already acquired, be limited to a right to receive light sufficient for all ordinary purposes, but shall not include a right to light of extraordinary amount for special purposes.

2. After the passing of the Act the owner of any tenement not at the time servient to some

neighbouring tenement, but over which such neighbouring tenement would in course of time acquire dominant rights, may serve upon the owner of such neighbouring tenement a formal notice, in form and manner prescribed by the Act, and may advertise the same in the daily papers, and register the same at the Land Registry, where one exists, of the district, or, where no such Land Registry exists, at the offices of the County or Municipal Council of the locality. Such notice shall have the same effect as though an interruption had been submitted to for one year, and such notice shall run with the land.

3. The owner of a building which is about to be taken down may cause plans, sections, and elevations to be prepared, and such drawings if they be attested by the District Surveyor in London, or the County or Borough Surveyor elsewhere, shall be accepted as legal evidence. Such drawings shall on demand be certified and registered by the officers above named, who shall be paid fees on a scale appended to the Act.

4. No building erected after the 1st January 1905, shall acquire any fresh rights of light or air where it abuts on any street, highway, road, court, or alley used by the public, or as an access to various tenements, either held in the same ownership or in various ownerships.

5. The owner, lessee, or occupier of any tenement, who considers that his ancient lights will be or have been interfered with by the erection or proposed erection of new premises or alterations to old ones, shall have the right to inspect (or have inspected on his behalf) the drawings which shall be prepared by the building owner of the premises which cause such interference ; or if no drawings are in existence, to be informed of the intentions of the building owner, and to take or have taken such particulars from the drawings or information or from the building itself, if erected, as may enable him to ascertain where there is ground for complaint.

6. If such neighbouring owner, lessee, or occupier considers that the lights of his premises will be interfered with, he shall, within seven days from obtaining such information as aforesaid, give notice in writing by registered post of his objection to the building owner, together with the name and address of a Surveyor who shall have power to act on his behalf.

7. Within seven days of the receipt of such notice the building owner shall acknowledge the said notice, by registered letter, and inform the person from whom he received notice of objection of the name and address of his Surveyor, who shall also have power to act on his (the building owner's) behalf.

8. Such two Surveyors so appointed shall, within ten days of the date of the appointment of the last of them, select and appoint an umpire under their hands in writing, such umpire being

a member of the Royal Institute of British Architects or of the Surveyors' Institution. The first-named two Surveyors shall within the like period meet and discuss the points raised by the owner, lessee, or occupier, with a view of settling the same, and failing coming to a settlement they shall refer the matter to the umpire appointed as aforesaid. The said umpire shall view the site and buildings of both plaintiff and defendant, and shall have power to take such evidence upon oath as he may think necessary, and he shall, within twenty-one days from the date of the matter being placed before him, or within such extended time as he may from time to time determine, issue his award, in which he shall determine either or all of the following points: the right of the building owner to carry out his intended works, the alteration (if any) necessary to be made in carrying out the proposed new buildings or alterations to prevent or lessen the obstructions complained of, and the amount (if any) of compensation of every description to be made to the owner, lessee, or occupier, the alterations or improvements to the adjoining premises by light-reflecting surfaces, enlargement of lights, heightening of premises, or other means, the amount of costs to be paid by each or either party, and generally all matters required to arrive at a settlement.

9. In the event of either party neglecting to appoint a Surveyor within the time prescribed, or of the unwillingness of the umpire appointed to act, and no other umpire being agreed upon within a further period of ten days, either party shall apply to the President for the time being of the Royal Institute of British Architects, or the President of the Surveyors' Institution, who shall appoint an umpire forthwith, with all the powers as before described.

10. If either party shall be dissatisfied with the decision of the umpire, he may appeal to an Appeal Committee to be formed of nine persons, appointed annually, viz.: three architects to be appointed by the Royal Institute of British Architects, three surveyors to be appointed by the Surveyors' Institution, and three barristers to be appointed by the Home Office. Three members, of whom one shall be an architect, one a surveyor, and one a barrister, shall form a quorum. The decision of this Committee, save as hereafter mentioned, shall be final, and they shall have full discretion as to costs. Before giving a decision the members sitting on the case shall personally visit the premises of the plaintiff and defendant, and shall have power to decide whether, and if so to what extent the proposed new buildings shall be amended, or the dominant premises altered.

11. In the event of either party refusing to accept the decision of the Committee in all cases in which a larger sum than 500*l.* is awarded either in money, damages, or works, or in which the interference with the proposed works exceeds 500*l.*

in value, he shall have power within one month from the publication of the said decision to bring the matter before the High Court of Justice by a summary process. The Court shall have the full powers set out in clause 8 aforesaid.

12. In any action to restrain building on the ground of its interference with the rights of light, and whether an interim injunction has been obtained or not, either party may apply to the Judge by summons, either to hear the same with an assessor or assessors, or to refer the same to arbitration in accordance with clauses 8 and 10. If at the hearing of such application or motion for injunction it appears to the Judge that the claim may be satisfied by damages, he may himself refer the case to such arbitration, and if he considers that the action for an injunction has been commenced unreasonably or unnecessarily, may order the party bringing such action to pay the defendant's expenses and costs on such scale as he may deem fit.

And the Joint Committee further recommend that they be empowered to expend the necessary funds in drafting a Public Bill to carry out the above provisions.

The Joint Committee also beg leave to submit to the Councils of the Royal Institute of British Architects and the Surveyors' Institution, for their consideration, copies of correspondence that has taken place between the Committee and the Council of the Incorporated Law Society.

(Signed)

T. ROGER SMITH (Chairman).

EDW. A. GRUNING.

J. DOUGLASS MATHEWS.

J. FLETCHER MOULTON, Q.C.

HERBT. THOS. STEWARD.

ALEX. R. STENNING.

HOWARD CHATFIELD CLARKE.

GEORGE M. FREEMAN, Q.C.

W. J. LOCKE, Secretary.

December 1900.

The following is the correspondence referred to in the concluding paragraph of the Report:—

30th October 1900.

The Secretary, Incorporated Law Society.

DEAR SIR,—

With reference to the resolution carried at the Annual Provincial Meeting of the Incorporated Law Society recently held at Weymouth, which it is reported in the newspapers ran as follows: "That the Council take steps with a view to getting the Law (of Ancient Lights) considered by the Legislature, and if they thought fit to co-operate with the Royal Institute of British Architects and the Surveyors' Institution," I have the honour to inform you that a Joint Committee of the Royal Institute of British Architects and

the Surveyors' Institution, which includes two Queen's Counsel, hon. members respectively of the Royal Institute and the Surveyors' Institution, is at present sitting, with a mandate from these two bodies to take such steps as may be necessary to secure an amendment of the Law of Ancient Lights.

Should such a procedure be acceptable to the Council of the Incorporated Law Society, the Joint Committee would be very happy, before taking any public action, to communicate to them the result of their deliberations, with a view to co-operating with the Incorporated Law Society in promoting a Bill in Parliament to secure an amendment of the existing law.

I should be glad to lay the reply of your Council before the Joint Committee at an early date.

I am, dear Sir, yours faithfully,
T. ROGER SMITH,
Chairman of the Joint Committee.

*Law Institution, Chancery Lane, W.C. :
10th November 1900.*

T. Roger Smith, Esq., R.I.B.A.

DEAR SIR,—I am directed by the Council of the Incorporated Law Society to thank you for your letter of the 30th October, and to say that the Council will be obliged if you will let them see the draft of the proposed Bill when framed, and that they will give it their careful consideration.—I am, dear Sir, yours faithfully,

E. W. WILLIAMSON,
Secretary Incorporated Law Society.

The Revised Paper of "Suggestions for the Conduct of Architectural Competitions."

At the Meeting last Monday, the earlier business on the notice-paper having been disposed of, the President brought up the Revised Paper of "Suggestions for the Conduct of Architectural Competitions," printed in the *Supplement* to the last number of the JOURNAL, and having formally moved its adoption, the Meeting proceeded to discuss the Paper and to make the further amendments set out in the appended report of the discussion. The Revised Paper as submitted to the Meeting was as follows, the changes made in the document hitherto in use being indicated in the footnotes :—

1. The Promoters of an intended Competition should, AS THEIR FIRST STEP, appoint one or more professional Assessors, architects of established reputation, whose appointment should be published in the original advertisements and instructions, and whose decision should govern the selection of the designs.

The President of the Royal Institute of British Architects is always prepared to act as honorary adviser to Promoters in their appointment of Assessors.*

* This paragraph is new.

All the designs sent in should be submitted to the Assessors.

2. The duty of Assessors should be—

- (a) To draw up the particulars and conditions as instructions to competitors, and to advise upon the question of cost ;
- (b) To determine which of the designs conform to the instructions, and to exclude all others ;
- (c) To advise the Promoters on the relative merits of the designs admitted to the competition, and to make a selection in accordance with the conditions.

3.* Every Promoter of a Competition, and every Assessor engaged upon it, and any employé of either, should abstain absolutely from competing, and from acting as architect, for the proposed work.

4.* The number and scale of the required drawings should be distinctly set forth, and they should not be more in number, or to a larger scale, than necessary to clearly explain the design. If perspective views be required, it should be so stated ; and they should be uniform in size, number, mode of colouring, mounting, or framing (if any), &c.

5. Competitions should be conducted in one of the following ways :—

- (A) By advertisement, inviting architects willing to compete for the intended work to send in designs. The promoters, with the advice of the Assessor or Assessors, should make their selection from such designs. The author of the design awarded the first place should be employed to carry out the work.
- (B) By advertisement, inviting architects willing to compete for the intended work to send in their names by a given day ; with such other information as the candidate may think likely to advance his claim to be admitted to the Competition. From these names the Promoters, with the advice of the Assessor or Assessors, should select : (a) an architect to carry out the work ; or (b) a limited number to compete, and each Competitor thus selected should receive a specified sum for the preparation of his design. The author of the design awarded the first place should be employed to carry out the work.
- (c) By personal invitation to a limited

* Clauses 3 and 4, as they stand in the existing document, are as follows :

3.—Every Promoter of a Competition, and every Assessor engaged upon it, should abstain absolutely from competing, and from acting as architect, for the proposed work.

4.—The number and scale of the required drawings should be distinctly set forth, and they should not be more in number, or to a larger scale, than necessary to clearly explain the design. If perspective views be required, it should be so stated ; and they should be uniform in scale, number, mode of colouring, &c.

number of selected architects, to join in a Competition for the intended work. Each competitor should receive a specified sum for the preparation of his design. The author of the design awarded the first place should be employed to carry out the work.

6. No design should bear any motto, device, or distinguishing mark; but all designs should be numbered by the Promoters in order of receipt. Any attempt to influence the decision of the Promoters, or of the Assessor or Assessors, should disqualify a Competitor.

7. In every case the amount of premium or remuneration for the competitive designs should be fixed* under the advice of the Assessor or Assessors, and should be paid in addition to the usual professional charges for carrying out the work.

8. Where a deposit is required for supplying the instructions, it should be returned on the receipt of a *bond fide* design; or if the applicant declines to compete and returns the said instructions within a month after their receipt.

9.† Each design should be accompanied by a declaration, signed by the competitor, stating that the design is his own personal work, and that the drawings have been prepared under his own supervision.

10. A design should be excluded from a Competition—

- (a) If sent in after the period named (accidents in transit excepted);
- (b) If it does not substantially give the accommodation asked for;
- (c) If it exceeds the limits of site as shown on the plan issued by the Promoters, the figured dimensions on which should be adhered to until officially altered;
- (d) If the Assessor or Assessors should determine that its probable cost will exceed the outlay stated in the instructions, or the estimate of the Competitor should no outlay be stated; provided always that should the Assessor or Assessors not have been consulted in the first instance respecting the cost, as recommended in paragraph (a) of Clause 2, and should he or they be of opinion that the outlay stated in the instructions is inadequate for the proper execution of the proposed works, the Assessor or Assessors shall not be

* The existing clause reads:

7. In every case the amount of premium or remuneration for the competitive designs should be fixed by the Promoters, acting under the advice of the Assessor or Assessors, and should be paid in addition to the usual professional charges for carrying out the work.

† Clause 9 is entirely new, and the following clauses have been re-numbered.

bound in the selection of a design by the amount named in such instructions, but the question of cost shall nevertheless be a material element in the consideration of the award;

(e) If any of the other instructions are violated.

11. It is desirable that all designs submitted in a Competition, except any excluded under Clause 9, should, with the consent of their authors, be publicly exhibited after the award has been made, which award should be published at the time of exhibition.

12. The architect whose design may be selected as the best should be employed to carry out the work, and he should be paid in accordance with the Schedule of "Professional Practice as to the Charges of Architects" sanctioned and published by the Royal Institute. If no instructions are given to him to proceed within twelve months from the date of the selection, he should receive adequate compensation in addition to the premium (if any) awarded to him. In the event of a part only of his original design being carried out, he should be paid a sum to be agreed upon in respect of the deferred portion, such sum to be merged in the usual professional charge when the completion of the design is proceeded with.

. It should be understood that the Royal Institute issues these Suggestions as a guide to Promoters where a Competition has been decided upon, but not as necessarily recommending the principle of competition.

DISCUSSION.

Mr. H. HARDWICKE LANGSTON [A.] moved the insertion of certain words in Clause 2, Section (a), so that the section should read as follows:—"The duty of assessors should be (a) To draw up the particulars and conditions as instructions to competitors, and to see that, as far as possible, the principles contained in these Suggestions are carried into such particulars and conditions; also to advise upon the question of cost." Mr. Langston submitted that it would be an advantage to competitors to have some assurance that an assessor, when appointed, would, as far as lies in his power, make it his primary duty to see that fair dealing be meted out to competitors.

Mr. E. W. HUDSON [A.] seconded the amendment.

Mr. EDWIN T. HALL [F.] remarked that if the assessor drew up the particulars and conditions, he would of necessity draw them up on the lines of the Paper under which he was appointed.

Mr. WILLIAM WOODWARD [A.] said it did not necessarily follow that the assessor would do so. He would support Mr. Langston's suggestion, and have it made perfectly clear that the assessor was expected to embody all the particulars set forth in the Paper.

After some discussion as to the wording, the Meeting accepted Mr. Langston's amendment, and the terms of Clause 2, section (a) were agreed to as follows:—

"(a) To draw up the particulars and conditions (as far as possible in accordance with the principles set forth in these Suggestions) as instructions to competitors, and also to advise upon the question of cost."

Mr. LANGSTON, going on to Clause 8, said that the restriction against the assessor's taking part in the competition should be made more positive, and he moved that the Clause be amended so as to read as follows:—"Every promoter of a competition *should*, and every assessor engaged upon it, and any employé of either, *shall* abstain absolutely from competing," &c. As regards promoters of competitions, the Institute was not in a position to lay down what they shall or shall not do. But assessors, members of their own body, and nominated it might be by the President of the Institute, should certainly be bound down, and told that they must not compete.

Mr. EDWIN T. HALL observed that it was understood that in such a Paper as this the word "should" meant "shall." "Should" was used in every Clause of the Paper. They could not say "shall," for the law of the land would not back them. The suggestion was that as a matter of honour a man "should" abstain from doing a certain thing, and with this facing him the Assessor would never dream of doing it.

The amendment eventually dropped, in default of a seconder.

Mr. LANGSTON then referred to the new Clause 9, and asked why it had been considered necessary to put in such a Clause?

The PRESIDENT stated that it had been found necessary lately to insert a Clause to that effect in conditions of public competitions, because in the case of special buildings—hospitals or asylums, for instance—men had been found competing who had no knowledge of the requirements of such buildings, but hired someone acquainted with works of the kind to make the design for them. It was against that sort of thing that the Clause was directed, so that none but the real authors of the designs should take part in the competition and get the credit for the work.

Mr. LANGSTON contended that the Clause cast by implication a slur upon the profession. The public outside would take it that there were actually among their body men who submitted competition designs of which they were not the authors. He would suggest a Clause to the effect that no members of the Institute should compete unless they were the authors of the designs submitted.

Mr. HALL considered that the Clause was absolutely necessary and eminently desirable. It was well known that men, who were sometimes invited and sometimes not, knowing nothing whatever about the particular work required, employed another architect to do the whole thing. He had heard of cases where other architects had made the design from beginning to end, the first man never having seen it, and yet it had gone in under his name and he had got the credit for it.

Mr. LANGSTON was sorry to hear that such a state of things existed. He contended, however, that the Clause would not help them. A man who was base enough to engage the mind and brain of another architect to do work for which he would take the credit as author, would scarcely stop at writing a letter to say that the work was his.

Mr. JOHN SLATER [F.] said that at any rate the Clause would go some way towards preventing such a state of things, and that was the reason they put it in.

After some further discussion, Mr. Langston's objection fell through for want of a seconder.

Mr. H. HEATHCOTE STATHAM [F.] said he wanted to suggest one or two alterations. He was a member of the Committee which had drawn up the Paper; but one or two suggestions as to improvement of the wording had occurred to him since. The first was as to Clause 2 (b): "To determine which of the designs conform to the instructions and to exclude all others." Competition committees were often so ignorant that they would read that

as a notification that the business of the assessor was to put aside, perhaps, the majority of the designs. As a matter of fact, the designs which did not conform to the conditions were generally in a very small minority, and he thought the facts would be better conveyed if the Clause read thus: "To determine *whether* the designs conform to the instructions and to exclude *any which do not*." He suggested that that would be an improvement. Then he would couple with that another suggestion which was merely verbal in Clause 8: "Where a deposit is required for supplying the instructions, it should be returned on the receipt of a *bond fide* design; or," &c. The first half of the sentence was hardly necessary, because the deposit always was returned on the receipt of a *bond fide* design. What they wished to suggest was an alternative. Therefore he proposed the insertion of the word "either," so as to read, "it should be returned *either* on the receipt of a *bond fide* design, or if the applicant declines to compete," &c., &c. That, he thought, would make it a little plainer. He would put those two as one amendment.

Mr. WOODWARD suggested that the word "all" would be a little stronger than the word "any" in Clause 2 (b).

Mr. STATHAM said he objected to the word "all" because there were generally only one or two, and it gave the competition committee the impression that the assessor must reject a number of designs. The wording he proposed would give them a truer impression.

Mr. E. T. HALL having seconded, the amended clauses were put and adopted as follows:—

2. (b) *To determine whether the designs conform to the instructions, and to exclude any which do not.*
8. *Where a deposit is required for supplying the instructions, it should be returned either on the receipt of a bond fide design, or if the applicant declines to compete and returns the said instructions within a month after their receipt.*

Mr. STATHAM said he would propose his other amendment separately because it was not purely verbal, but included a point upon which there might be a difference of opinion. He referred to the latter part of Clause 4: "If perspective views be required it should be so stated, &c." That sentence suggested, no doubt, that perspective views were not always necessary, but he thought it would be better to make the suggestion a little more decisive. Perspective views in competitions, though they made a much more interesting exhibition, were an additional and often unnecessary tax on competitors, and also very often misleading to the public. Mr. Waterhouse, whom he might call the leading assessor *par excellence*, whenever he had anything to do with drawing up the conditions, always struck out perspective drawings. He would suggest, then, that they should express their view a little more decidedly that on the whole perspective drawings were unnecessary. He therefore moved that the second part of the clause should read thus: "Perspective drawings are not necessary, but if required it should be so stated," and so on.

Mr. T. E. COLLCUTT [F.] seconded.

Mr. E. W. HUDSON [A.] asked if the matter might not be left to the assessor.

Mr. STATHAM thought that most members of the Institute, especially those who engaged in competitions, would agree that perspective views, on the whole, were a nuisance and an unnecessary labour, and it was well to convey that impression to the promoters of competitions. The assessor did not require them; he judged from the elevations and the plans.

Mr. EDWIN T. HALL asked leave to make a suggestion with a view to discouraging perspective views, viz. to amend the sentence as follows: "Perspective drawings are not necessary; but if the assessor advises that they should be included it should be so stated." Perspectives

then would not be expected at all unless the assessor desired them. "If they are required" might mean, if the local committee wanted to have a pretty exhibition; whereas his point was to cast the onus of having perspectives at all on the assessor, the professional adviser.

Mr. Statham and Mr. Colcutt having accepted this suggestion, the amended clause was adopted as follows:—

The number and scale of the required drawings should be distinctly set forth, and they should not be more in number, or to a larger scale, than necessary to clearly explain the design. Perspective drawings are not necessary; but if the assessor advises that they are desirable it should be so stated; and such drawings should be uniform in size, number, mode of colouring, mounting, or framing (if any), &c.

No further amendments being proposed, Mr. WOODWARD asked leave to refer to a matter in connection with these Suggestions, which he had had in mind for many years, and upon which he thought members of the Institute who engaged in competitions would agree with him, viz. that if the recommendations contained in this Paper were faithfully carried out by competitors, and the competitor selected by the assessor should be unfairly dealt with by the committee, this constituted a breach of contract; and if the aggrieved competitor were a member of the Institute, the Institute should bring an action on his behalf against the committee for such breach of contract. It was impossible for any one competitor to be at the expense of such an action; but if the Institute would lay out, say, a couple of hundred pounds in bringing an action for breach of contract, it would teach committees that they could not deal as they pleased with men who had expended so much time and labour on their competitive drawings. Some years ago this idea had been mooted by a younger Society connected with the profession, and had they possessed sufficient funds it would, he believed, have been carried into effect. He brought the matter forward merely as a suggestion. He felt that they could very well support and protect the younger members of the Institute from wasting their time and money in what was very often a bogus competition.

The SECRETARY stated that the French architects possessed an association called the *Caisse de Défense mutuelle des Architectes*, which had the support of the *Société Centrale des Architectes français*. Its object was to protect architects in such matters as Mr. Woodward referred to.*

The PRESIDENT thought that when such a case as Mr. Woodward referred to arose, then it would be time enough for somebody to bring forward the proposition, and see what the Council and the Institute thought of it.

The Paper of Suggestions as finally revised and amended was then put from the Chair, and adopted unanimously.

The Annual Dinner 1901.

The Annual Dinner of the Royal Institute will be held this year in Glasgow on Thursday, the 3rd October. The Glasgow Institute of Archi-

* This Association was founded in 1884, and has a large membership. It helps or reimburses those of its members who may be forced to go to law or against whom an action is brought, when the interests at stake affect *Responsibility, a Public Competition, Professional Charges, Artistic Property, &c.*; but it has no concern with purely personal questions which have no bearing on the interests of the Profession at large.

itects are now making arrangements for a three days' visit of the Royal Institute of British Architects, and express the hope that as many members as possible will attend. A detailed programme will be issued shortly. Meanwhile it is announced that the City Corporation of Glasgow will entertain the visitors from the Royal Institute at a reception on Friday evening, the 4th October. The visit of the Royal Institute will thus be included in the general scheme of social arrangements connected with the Glasgow International Exhibition 1901.

The November Preliminary Examination.

The following gentlemen passed the Preliminary Examination held at York last November, and have been registered *Probationers R.I.B.A.*:—

MATKIN: George Edward; 115 Herrington Street, Sunderland [Masters: Messrs. Barnes [A.] and Coates [A.].

ROSS: Harry; 69 Sholebrook Avenue, Chapeltown Road, Leeds [Master: Mr. G. W. Atkinson].

Bristol Police Court Extensions Competition.

The Town Clerk of Bristol has written to the Hon. Secretary of the Bristol Society of Architects to inform him that the Finance Committee of the Corporation do not contemplate the appointment of a professional assessor in the above competition.

The late Antoine-Henri Revoil [Hon. Corr. M.].

By the death of M. Antoine-Henri Revoil France has lost a gifted architect, and the Institute one of the oldest and most eminent of its Corresponding Members. Born at Aix in 1822, the son of a distinguished painter, M. Revoil studied architecture in Paris at the Ecole des Beaux-Arts as a pupil of Caristie. Having won his second-class, he became attached to the Services of the Edifices Diocésains and Monuments Historiques, and settled at Nîmes. From 1854 to 1880 numerous ecclesiastical buildings in various departments of France were confided to his care. He also carried out the entire rebuilding of the choir, transepts, and sacristy of the Cathedral of Montpellier; the Cathedral of Nîmes, with the exception of the front of the building; and completed the new Cathedral of Marseilles, his share of the work comprising the great porch, the ornamental leadwork, the mosaics, and most of the sculpture. Other notable achievements are the beautiful goldsmith's work and mosaic decoration carried out from his designs at the church of Notre Dame de la Garde at Marseilles; convent chapels at Nîmes, restorations of the churches of Cruas, Saint-Maximin, Saint-Trophime, Saint-Pierre, the Abbey of Montmajour, &c. Not less noteworthy are his civil works, as, for example, the municipal buildings and schools at Tarascon; his restoration of ancient monuments, as the

arenas of Nîmes and Arles, and the theatre of the last-named town; or restorations of buildings of mediæval times, as the Palace of the Popes and the ramparts of Avignon. M. Revoil was an ardent archæologist, and the fruits of his researches are published in his magnificent work *L'Architecture romane du Midi de la France*, and others not less erudite. He was elected Correspondant de l'Institut de France in 1878, and in the same year was made an Officer of the Legion of Honour. He was the possessor of many foreign orders and distinctions, his connection with the Institute dating back to 1865, when he was elected Corresponding Member.

Institute Travelling Students who have pursued their studies in his neighbourhood retain grateful memories of the kindly courtesies and ready assistance so generously accorded them by M. Revoil. Mr. A. Needham Wilson [A.], *Inst. Drawings Medallist* 1884, *Soane Medallist* 1886, thus records his personal experiences:—

"The Institute Travelling Students have no kinder friends than our French confrères, and of those confrères none was kinder than M. Revoil.

"It was my good fortune as Soane Medallist to have an introduction to him, through the good offices of our active friend, M. Charles Lucas, and nothing could have exceeded the warmth of my reception. He was distressed that I had not gone to him immediately on my arrival, instead of finding quarters unassisted. He was anxious to find me properly housed in Nîmes. 'An artist,' he said, 'should have artistic surroundings.'

"He took the deepest interest in my studies and often directed them, pointing out the best subjects for my purpose. He lent me books, introduced me everywhere, and smoothed my path in a marvellous manner, and so enabled me to ransack Nîmes in a way that no Englishman had ever done. He frequently examined my work, and, a brilliant draughtsman himself, gave me the benefit of his valuable advice and experience. He would hear of no thanks. Was I not *lauréat* of the Institute, and as such entitled to his utmost consideration? (It is a pity the honour does not carry the same weight in England.) I was his confrère; could he say more?

"Imagine the confidence and encouragement to a young fellow at the beginning of his career! Even after leaving Nîmes, I found the great advantage of his powerful influence, and it was my good fortune to see many of the wonders of Avignon under his able guidance.

"And though all this was in 1887, he never forgot me, for the commencement of each year brought a card, once accompanied by a charming sketch in water-colour, and generally by a letter marked by the kindest sentiments.

"Art has no country, and English architects may equally with their French brethren mourn

the loss of a distinguished member of the profession. But I feel that I have lost a friend."

At the General Meeting of the Institute last Monday, on the motion of the Hon. Secretary, a vote of sympathy and condolence with the relatives of M. Revoil was ordered to be entered on the Minutes, and a message of sympathy to be sent to the Société Centrale des Architectes français, condoling with them on the loss of so distinguished a member.

The late Henry Currey [F.]

The following notice of the professional career of the late Henry Currey has been kindly contributed by his son, Mr. Percivall Currey [F.]:—

Mr. Henry Currey, born October 1820, was the third son of Benjamin Currey, of Old Palace Yard, solicitor, and for many years one of the Clerks of the Table, House of Lords. He was educated at Dr. Pinckney's, East Sheen, and at Eton, rowing in the School Eight against Westminster. He was articled to Decimus Burton for five years, and on leaving his office went into the office of Messrs. William Cubitt & Co., Gray's Inn Road, for nine months. He afterwards travelled in Germany and Italy, and commenced practice in 1848, carrying on business at his residence in Brook Street, Grosvenor Square. He married in 1845 the youngest daughter of the late Sir Charles Price, Bart. As a young man he obtained the first premium in a competition for the erection of houses and terraces in Toxteth Park, Liverpool. He also obtained the first premium for the enlargement of the Surrey County Lunatic Asylum. On his appointment as architect and surveyor to St. Thomas's Hospital in 1847, he moved his offices to No. 4 Lancaster Place, Strand, and afterwards, when that building was acquired by the Metropolitan Board of Works for the purposes of the new approach to the Embankment, to 37 Norfolk Street, Strand. He had a very considerable and varied practice, his principal work being the new St. Thomas's Hospital, rebuilt on the Embankment after its removal from the Borough for railway purposes. A short account of this removal and reinstatement is given in a Paper read by him before the Royal Institute of British Architects, 29th January 1871.*

He designed and erected sundry country houses, one at Leigh near Reigate for Mr. James Freshfield, and one at Buxton for Mr. Shaw; hotels at Buxton, Eastbourne, London Bridge, &c.; large bathing establishment and pump-room at Buxton; the Peninsular and Oriental Company's offices in Leadenhall Street, and many other commercial buildings in the City and Southwark.

* TRANSACTIONS 1871, p. 61.

He also erected churches at Burbage in Derbyshire, Buxton, Chiswick, Notting Hill, St. Peter's, Eastbourne, and superintended sundry renovations. He laid out the Duke of Devonshire's building estate at Eastbourne, and executed large works on sea walls, terraces, &c. He also built sundry houses at Eastbourne, the Pavilion and Theatre at Devonshire Park, the College Building Chapel, &c. He was architect and surveyor to the Foundling Hospital, and carried out extensive works in the schools, chapel, and new infirmary at that Institution. He was also architect and surveyor to the Magdalen Hospital, and erected their new buildings at Streatham. His services were in constant request as assessor in important competitions, in valuations for compensation, and as arbitrator.

Mr. Currey's connection with the Institute began in the year 1848, in which year he was elected Associate, proceeding to the class of Fellows in 1856. He was for many years on the Institute Council, twice being elected *Vice-President*, and serving in that office from 1874 to 1877, and again from 1889 to 1893. He was also a Fellow of the Surveyors' Institution, and an Associate of the Institute of Civil Engineers. He took an active interest in the work of the Architects' Benevolent Society, and was one of the trustees of the Institution.

The late Henry Cowell Boyes [F.].

It is with great regret that we have to record the death of Mr. Henry Cowell Boyes at the somewhat early age of 54. He became an Associate of the Royal Institute in 1874, and a Fellow in 1882. During the Session 1876-77 he served as President of the Architectural Association. He had an extensive practice in the City, and in 1885 was appointed Surveyor to the Worshipful Company of Grocers, whose hall and premises in Princes Street he rebuilt, adding thereto a large and profitable block of City offices. For the Company he also erected a church at Homerton, and considerable additions to their schools at Hackney Downs and Oundle. He was architect to Messrs. Prescott's Bank in Cornhill, and several houses in the country. He served in its early days on the Practice Standing Committee of the Institute, and was for some time its secretary. His experience and knowledge of London practice were very useful while the Committee was engaged in drawing up the amended Conditions of Builders' Contracts and the Institute's draft of an amended London Building Act. Outside the profession he was well-known as a member of the London Rifle Brigade, in which he attained to the rank of Lieut.-Colonel. He was instrumental in promoting the building of the Regiment's Headquarters in Bunhill Row, to which he acted as Hon. Architect.—LACY W. RIDGE.

REVIEWS.

ROMAN ART.

Roman Art: Some of its Principles, and their Application to Early Christian Painting. By Franz Wickhoff. Translated and edited by Mrs. S. Arthur Strong. Lond. 1900. Price 36s. net. [William Heinemann, 21, Bedford Street, W.C.]

Much has been written of late years on the tendencies of sculpture in Rome about the end of the first century B.C. One of these tendencies was to imitate archaic Greek statues and bas-reliefs, another to go on reproducing the later types of Praxiteles and his successors. Apparently any one sculptor was capable of following either method as occasion required. At the same time there were among the Greek artists then resident in Rome some who are known to have combined direct study of nature with a facile gift of reproducing the old masters. To illustrate this combination of nature and tradition it was frequently pointed out that on the best of the archaistic sculptures surviving from that period there had been engrafted a new and fresh observation of nude forms, together with an expression of sentiment foreign to the archaic Greeks. But this was far from enough to satisfy Professor Wickhoff. He set himself to vindicate for the Romans a national art of their own in which direct observation of nature was a first impulse. This impulse, acting on a wide basis of academic training which they had acquired from the Greeks, led the Romans rapidly to *illusionism*, such as we see in their portraiture, and to a method of *continuous narration*, as in the bas-reliefs of Trajan's column and kindred monuments. Such in brief is Professor Wickhoff's theory. He regards the methods of continuous narration, in which the incidents of a campaign are illustrated in consecutive scenes, with the personality of the emperor frequently repeated, as the "Flower of Roman Imperial art," its root and growth being entirely Roman.

It is thus a question of artistic methods. On that ground Professor Wickhoff is unrivalled among archaeologists. With his knowledge of Greek vases and his acute critical faculty, he is able to produce instances where the painters had come very near to a continuous method in illustrating legendary exploits, but yet had stopped short at the final stage. A familiar example is to be seen on vases of the early fifth century B.C., where the labours of Theseus are represented in contiguous groups, the hero being repeated in each group. But of course there is no sense of continuity in these compositions. In Greek sculpture there is a close approximation to the Roman campaign-reliefs on a frieze of the Nereid monument in the British Museum, where we see in successive stages the assault on a walled city

and the final surrender of the city to a Persian satrap. But Professor Wickhoff would doubtless reply: "The chief personages are not repeated in the several scenes," which is true. There was no emperor to glorify in those days.

An important feature in the Roman campaign-reliefs is the introduction of landscape backgrounds. Nothing of that kind is known in Greek sculpture of the great age. But who can say what the frescoes of Polygnotus at Delphi were like in this respect? It is impossible to read the description of them in Pausanias without mentally supplying a landscape background, and, indeed, in one instance the landscape is expressly described. It is admitted in Wickhoff's theory that landscape scenery was employed on the Greek stage, the actors playing their parts in front of it; but he maintains that to combine the actors with the landscape behind them into an organic composition was an artistic innovation of the Romans. He is therefore opposed to the general opinion which accepts as Hellenistic a series of bas-reliefs, mostly on panels, representing out-of-door scenes, such as huntsmen in the foreground of a landscape. He thinks that these reliefs run parallel with the "Georgics" of Virgil. His opponents associate them with the older bucolic poets Theocritus and Moschus, who when they describe works of art, as they occasionally do, seem to have in their mind just such reliefs. The strength of his position lies in the absence of any such principle from the great mass of Greek art which has survived to this day.

On the other hand, Wickhoff seems to overlook the very interesting fact that in the oldest Greek art of the Mycenaean age there are several striking examples of landscape backgrounds, such as the hunt of wild bulls on the gold cups of Vaphio, and the representations of the nautilus and octopus among rocks and sea-weeds which occur on the Mycenaean vases. As our knowledge of that early period increases, we realise more and more how strong and spontaneous was the instinct of the Greeks for nature, and how true their observation. It would seem as if in later times, under the influence of academic training and higher ambitions, they had lost much of this gift. But the gift may have remained latent in the race all the same, ready to appear again when training could do no more, and artistic ambitions had ceased. I commend the consideration of this view to Professor Wickhoff, if, indeed, he has not himself thought of it in the interval since the publication of his book in its original German form in 1895.

It is a source of great satisfaction that a scholar with Wickhoff's extensive knowledge of artistic methods has taken up the long-neglected Roman Imperial art, and if he sometimes extols it too highly we must forgive him in view of the brilliant examples of criticism in detail which

abound in his work. It is provoking to hear him speak of the sculptures on the Arch of Titus in terms of praise more fitting for the Parthenon frieze; and certainly it will stagger not a few to be told that the Pasquino, the Barberini Faun, and the Dying Gladiator "yield nothing in absolute worth to the masterpieces of the fifth and fourth centuries" (p. 23), that is, including the sculptures of the Parthenon.

The section of the book which deals with the paintings of Pompeii will show how admirably he succeeds in bringing to bear on them his knowledge of artistic methods and his scholarship. He takes the *Imagines* of Philostratus in his hand, reads them in front of Pompeian frescoes, and shows how true were the descriptions of that often maligned writer. In the German form of the book Professor Wickhoff is content with references to more or less unfamiliar publications of the frescoes which he discusses. In its English dress Mrs. Arthur Strong has most considerably provided the necessary illustrations. In other parts of the work she has earned our gratitude in the same way with a profuseness which adds materially to the handsome appearance of the book as well as to its utility.

Since 1895 archaeologists have been familiar with references to the *Wiener Genesis*, and have sometimes wondered what so strange a title could mean with reference to ancient art. As a matter of fact there is in Vienna a finely illuminated MS. of the book of Genesis, for which Professor Wickhoff was asked to write an introduction, and to trace the origin of the method of illustration there employed. This he traces back to the Romans, and with much critical apparatus arrives at the conclusion that they were the inventors of the method. It is this introduction that Mrs. Strong has edited so admirably. She is an archaeologist of experience, perfectly familiar with German phraseology in these matters. As was to be expected, her translation is easy and fluent. Occasionally I have observed signs of haste, as at the foot of p. 151, where the chariot of the Sun (*Sonnenwagen*) has got mixed up with thunderbolts. But on the whole she has accomplished excellently the task she had set herself of presenting to English readers in a most agreeable form the novel and interesting views of Professor Wickhoff on Roman art.

British Museum.

A. S. MURRAY.

MINUTES. V.

At the Fifth General Meeting (Business) of the Session 1900-1901, held Monday, 7th January 1901, at 8 p.m., the President, Mr. Wm. Emerson, in the Chair, with 16 Fellows (including 11 Members of the Council) and 16 Associates (including 1 Member of the Council), the Minutes of the Meeting held 17th December 1900 [p. 104] were taken as read and signed as correct.

The Hon. Secretary announced the decease of the following members, viz.:—Antoine-Henri Revoil [*Hon. Corr. M.*, Nîmes] and Henry Cowell Boyes [*F.*], and upon the motion of the Hon. Secretary the Meeting passed a vote of sympathy and condolence with the relatives of the deceased gentlemen; and also with the Société Centrale des Architectes français for the loss the Société has sustained by the death of its distinguished member, M. Revoil.

The Hon. Secretary having announced the receipt of various works presented to the Library, a vote of thanks was forthwith passed to the donors. A vote of thanks was also warmly accorded to Mr. Sydney Smirke [*F.*] for his annual donation of Five Guineas to the Library, this making the twelfth year of such contribution.

The following candidates for membership were elected by show of hands under By-law 9:—

AS FELLOWS (3).

WALTER ASTON (Manchester).

FREDERICK OSCAR OERTEL [*Assoc.* 1888], Executive Engineer, Public Works Department, North-Western Provinces, India.

THOMAS BOSTOCK WHINNEY [*Assoc.* 1884].

AS ASSOCIATE.

FREDERICK MILTON HARVEY [*Qualified* 1900] (Great Yarmouth).

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, and admitted by them to candidature, were recommended for election, viz.:—As FELLOWS, Francis Spence Baker [*A.* 1892] (Toronto); Arthur Conran Blomfield, M.A. Cantab.; Charles James Blomfield; George Frederick Collinson [*A.* 1892]; William Flockhart; John Leeming; Joseph Leeming. As ASSOCIATES, Theophilus Bradford Ball (*Probationer* 1894, *Student* 1897, *Qualified* 1900) (Weston-super-Mare); Ernest William Banfield (*Probationer* 1894, *Student* 1898, *Qualified* 1900); George Brumell (*Probationer* 1893, *Student* 1896, *Qualified* 1900) (Morpeth); Henry Munro Cantley (*Probationer* 1893, *Student* 1896, *Qualified* 1900); William Gerald St. John Cogswell (*Qualified* 1900, *Special Examination*); William Edward Benjamin Froome Crook (*Qualified* 1900, *Special Examination*); Henry Archibald

Douglass (*Probationer* 1892, *Student* 1897, *Qualified* 1900) (Brighton); Thomas Wallis Gordon (*Probationer* 1890, *Student* 1892, *Qualified* 1900) (Nottingham); Alfred Harold Goslett (*Probationer* 1895, *Student* 1897, *Qualified* 1900); Shirley Harrison (*Probationer* 1897, *Student* 1898, *Qualified* 1900, *Ashpitel Prizeman*) (Leicester); Charles Edward Hutchinson (*Qualified* 1900, *Special Examination*); Alfred Lightly MacGibbon (*Probationer* 1895, *Student* 1897, *Qualified* 1900) (Edinburgh); Robert Henry Jewers Mayhew (*Probationer* 1897, *Student* 1898, *Qualified* 1900); William Vincent Morgan (*Probationer* 1893, *Student* 1895, *Qualified* 1900) (Carmarthen); Reginald Wynn Owen (*Probationer* 1894, *Student* 1896, *Qualified* 1900) (Liverpool); Alfred Wyatt Papworth (*Probationer* 1897, *Student* 1898, *Qualified* 1900); John Quail (*Probationer* 1897, *Student* 1898, *Qualified* 1900) (Manchester); Frederick John Osborne Smith (*Probationer* 1893, *Student* 1897, *Qualified* 1900); Edwin James Tench (*Probationer* 1894, *Student* 1896, *Qualified* 1900) (Cambridge); Christopher Boswood Thomas (*Probationer* 1894, *Student* 1896, *Qualified* 1900); Henry Archibald Tinker (*Qualified* 1900, *Special Examination*); Philip John Turner (*Probationer* 1894, *Student* 1898, *Qualified* 1900); William John Walford (*Probationer* 1894, *Student* 1898, *Qualified* 1900). As HON. FELLOW, Sir Lawrence Alma-Tadema, R.A., F.S.A. [*H.A.*].

The Meeting then proceeded to the consideration of the Revised Paper of "Suggestions for the Conduct of Architectural Competitions," as printed on pp. 109, 110, and further amendments having been made, on the motion of Mr. H. Hardwicke Langston [*A.*] and Mr. H. Heathcote Statham [*F.*], in Clause 2 (a) and (b), and Clauses 3, 4, and 8 [see Discussion, pp. 110-112], it was

RESOLVED, *nem. con.*, that the Paper as now revised be adopted, and that it be forthwith published and issued as with the sanction of the Royal Institute of British Architects, and that the old Paper be withdrawn.

Mr. Lewis Solomon [*F.*], having referred to a Resolution which he had given notice to move at that Meeting, asked leave to withdraw the first part of it, and the matter having been briefly discussed, Mr. Solomon in deference to the Meeting modified the second part of his resolution, and it was

RESOLVED (by twelve votes to six), That a Committee be appointed to inquire into the status of the architectural profession, and to suggest remedies if needed.

Messrs. Lewis Solomon, Wm. Woodward [*A.*], W. H. Atkin-Berry [*F.*], W. H. Seth-Smith [*F.*], E. W. Hudson [*A.*], H. H. Statham [*F.*], and the President took part in the discussion.

The proceedings then closed, and the Meeting separated at 9.30 p.m.

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OF
THE ROYAL INSTITUTE OF BRITISH ARCHITECTS



DATES OF PUBLICATION IN 1900-1901

Nov. 10, 24; Dec. 8, 22; Jan. 12, 26; Feb. 9, 23; Mar. 9, 23; Apr. 6, 27; May 11, 25; June 8, 22; July 27;
Aug. 31; Sept. 28; Oct. 12. *Quarterly Parts:* Jan. 16, Mar. 27, June 12, Oct. 16

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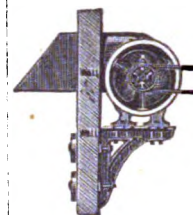
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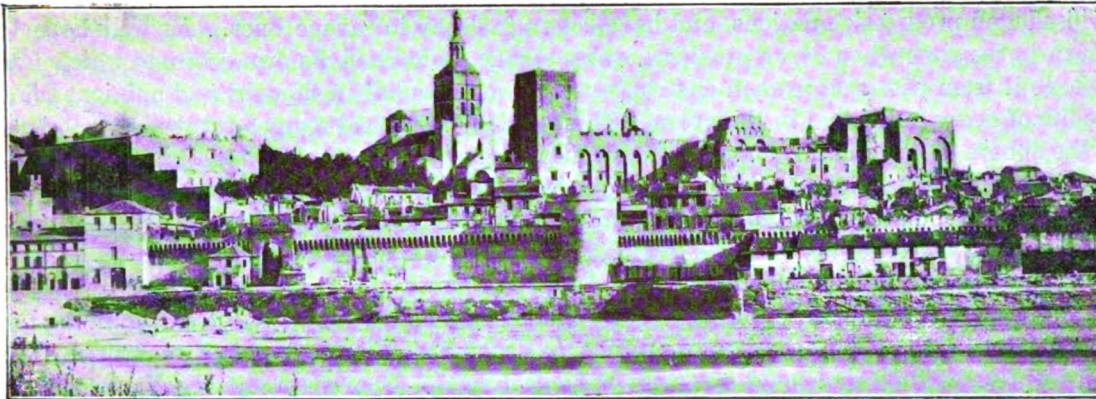
It is with deep sorrow that we have to record the death of Her Most Gracious Majesty Queen Victoria, which took place on Tuesday, 22nd January 1901.

Her Majesty was Patron of the Royal Institute of British Architects during the whole of her long reign, and from the year 1848 conferred annually the Royal Gold Medal for the promotion of Architecture on the recommendation of the Institute.

The Royal Institute mourns not only, in common with the Empire, the loss of a great Sovereign, but also the loss of a gracious Patron both of the Institute and of the art of Architecture.

JUN 6 1901

CIVIL ENGINEERING



DIFFICULTIES AND HINDRANCES IN PRODUCING GOOD MODERN ARCHITECTURE. By J. J. STEVENSON [F.], F.S.A.

Read before the Royal Institute of British Architects, Monday, 21st January 1901.

THE purpose of this Paper is to inquire why it is that so many of the buildings produced at present fail in attaining the correctness and perfection in their architecture which were almost universal in former times; and whether there are any means by which we could again secure the high general level of excellence prevailing during the historical styles of architecture, when, from palaces to cottages, from cathedrals to the smallest churches, the temples and civil buildings of earlier antiquity, were all good after their kind, some better and some worse, but all correct in their own style, free from the mistakes and ignorance which characterise so many modern buildings. Every old town delights us with the interest and charm of its architecture, except where possibly some new building jars like a false note in music; but we do not go out of our way to see new-built towns or modern suburbs which replace the fields and gardens round old ones. We think little of the revived Gothic, or dull Greek, or the classic in painted plaster of the first half of the last century. What will our successors think of the hundreds of cemetery chapels, the churches and chapels in bad Gothic, of the wild attempts to improve the quiet beauty and simple proportions of the old Queen Anne style, the obvious efforts to be original and striking—which are as bad taste in architecture as in dress? The old builders were not greater geniuses than their modern successors, they were not learned and had no weekly building papers to instruct them; why is the result now so unsatisfactory? We have difficulties and hindrances which they had not, and by understanding these we may perhaps see how they might be overcome.

By difficulties I understand the conditions of modern life as compared with former times which we cannot hope to alter and under which we have to work; and by hindrances the laws and regulations which restrict the practice and natural development of building.

Mr. Fergusson, in his useful *History of Architecture*, urges that to get again the general perfection of the old styles we must return to the conditions in which they were produced—when one style only at one time was followed, when there were no architects, because there was no need of them, every builder knowing and practising the style of his country and period as he knew his own language—and that to abolish architects is the best hope for architecture.

That is not a conclusion which will commend itself to this Institute, but we may console ourselves that it is impossible; the clock of time cannot be put back. The social conditions which produced the historical styles of architecture have ceased from this earth, at least in

civilised and progressive nations, and have begun to decay in savage ones. As well hope to return to the time when every province, every village even, had its own costume which had come to it from past ages; when custom, not only in dress but in thought and opinion, ruled the life of every individual in the group. This state of things had many advantages, especially in the sphere of art and good taste; these old national costumes, still lingering in less progressive countries, are much more interesting and artistic than the attempts of modern and enlightened populations to imitate fashionable dress and follow its changes. Similar conditions ruled in other arts. Each workman knew his work, and, all trained the same way, the result was harmonious and correct.

Traditional architecture did not cease with the new life of the Renaissance, and though the mediæval styles lived on, the new architecture soon became a custom and tradition which every workman knew and could carry out without drawings from an architect. It is only in the last two or three generations that architecture has emancipated itself from tradition, that builders and architects, instead of conforming to established custom, have followed their own fancies and have done what was right in their own eyes, every man being a law to himself. Instead of the few whose force of genius broke through tradition and made an advance in the style, each architect and builder now thinks he must be original, and as original genius is scarce so are good buildings.

Bad architecture is far more harmful than bad literature or painting. These we can get out of the way, but in architecture the consolation does not hold that it will be all the same a hundred years hence. Even the mistakes of doctors are forgotten, as the architect replied to the doctor who had been abusing the building the former had designed, "Your failures are all underground!" We cannot bury bad buildings out of sight; successive generations must endure them. Is there any means by which we might be saved from them? They are fully criticised when the architects who designed them are gone; but while they are alive it is considered a breach of professional etiquette to find any fault with them. We reverse the saying, "*De mortuis nil nisi bonum.*" To be any good the criticism should be applied before they are built. Painters consult their friends and ask their criticisms on their work while alteration is yet possible. The criticisms of other architects might supply in some degree the old certainty of perfect work, and the architect, however eminent, might gain light and help.

Professional etiquette may make this impossible in new buildings, but as regards existing national buildings the claim of an architect, or a painter, or lawyer, to alter them as he thinks fit is unwarranted. The restorations of Sir Gilbert Scott have been adversely criticised since his death, sometimes I think unjustly; but it would have been better for his fame and better for the cathedrals he restored if he had had to get the approval of other architects for some things he did to them. This might have prevented Lord Grimthorpe's vulgarisation of St. Alban's, or Sir William Richmond's corrections of Sir Christopher's design, or the architect's idea that a classic cornice should have a handsome gilt railing on the top, and might have saved many an interesting old church from the appalling ignorance of restoring architects, as in scraping the original plaster not only from the outside but also from the interior walls, and even sometimes pointing the joints of rough rubble building with black mortar beside delicate tracery windows.

One reason why new streets are duller and less picturesque than old ones is their being built in absolutely straight lines and all the same width. Some old streets famed for their beauty, as the Grand Canal at Venice, the Lung' Arno at Pisa, or Grey Street in Newcastle-upon-Tyne, owe it not merely to their buildings but to their not being straight. The buildings (though each is rectangular) standing at different angles, a play of light and shadow is produced instead of one monotonous light on their fronts, and each asserts its individuality,

all the more if the buildings are isolated by narrow openings like the small canals of Venice. But we cannot expect to alter this; it would seem affectation to lay out streets in a purposely irregular manner, and such narrow openings the Building Acts forbid, though it would tend to better ventilation to have narrow streets, if short, opening into wider sunlit spaces, thus causing movements of the air.

The chief difficulty for modern architects in producing good architecture is their freedom; they have lost the restraining influence of the old styles which kept ordinary men straight, and think they are bound to be original. Instead of a style developing through a century, there is a succession of fashions. True originality is possible only to those who have a full knowledge of what has been already achieved and have drunk in its spirit.

The best hope for new architecture is a thorough knowledge of the old, not a superficial acquaintance with many different styles. That will no more enable a man to design in them than knowing many languages will enable him to write well in any one of them. The style must be assimilated so that he can think in it and use it as he does his native tongue. Answering the questions in the usual examinations does not make a man an architect; their variety and extent, and a knowledge of different styles, will rather prevent him from designing well in any one. The architect like the poet must be born, not made. As the poet weaves words into verses, so the architect must not only know architectural forms but have the faculty of combining them to realise his conceptions of grand or beautiful buildings.

It might be thought that competitions would secure good architecture by criticism and selection of the best designs, and they have sometimes been the means, as in St. George's Hall at Liverpool and the Scott Monument at Edinburgh, of discovering a great architect who might otherwise have been unknown. When the decision rested with a committee there was a risk that ignorance or favour might determine it, and it was believed that this would be avoided and a building perfect in architecture and in every way secured by appointing an architect of standing either as assessor to advise the promoters or as judge to decide.

But the result has not justified the hope. Even this amended system is discredited. It has by no means uniformly produced great or even satisfactory buildings, and there is now a tendency to abandon it.

The system is unnatural. Before making a design an architect consults with his employers, ascertains their views, advises them how far they are practical and right, then makes his drawings, improving them in consultation with his employers. In a competition he is debarred from all this. He works in the dark; he has to guess what is wanted, and no information the assessor can give in his instructions to the competitors can adequately supply it. Architects whose local standing might have entitled them to be appointed for the work, who possibly know more of the conditions and requirements than the assessor, hesitate to be judged by their drawings alone, in competition with some young unknown architect from a distance who, if he is successful, has no character to maintain in the district. There are instances of disastrous results from this cause.

Sometimes the assessor is one whom architects who know their art may fairly decline to be judged by. The committee select him for qualities they can appreciate—his business capacity, his power of persuasion, or even for his reputation as an assessor or his appointment by the President of this Institute; the competitors may know he does not understand their art, and he may show by his instructions, as has happened, that he is ignorant of the requirements. Being appointed, he draws up the conditions of competition. In these he takes a power of decision more absolute than judges in law cases ever claim; they decide only after hearing what the parties can plead against their opponents' case as well as for their own; they

give the reason for their judgments and thank counsel for the assistance they give them in understanding the case. In what was called Jeddart justice, if the prisoners were hanged first, they were at least tried afterwards; but the assessor hears no pleadings, and gives no reason for his judgment. Might not his proceedings be in some degree assimilated to those which ordinary justice requires in civil cases? The competitors, having studied for months the problems involved, would be able to point out to him how far their plans had solved them, and where their opponents had failed; it is possible that, however fair and able, he may have missed them. Surely common justice requires that they should not be condemned unheard. This might be done by written statements like written pleadings in the Law Courts, referring when necessary to the plans. It would no doubt give the assessor more trouble, but the interests involved, affecting not only money but character and standing, are far greater than in many lawsuits, and he could make his remuneration adequate. It would tend to save much heartburning and sense of injustice. It may be objected that if this were done the assessor would know who the competitors were. Why should he not? Apparently because it is feared that if he did he might be corruptly influenced to give the award to a favourite or friend. But surely this is a libel on his character, and, if he were a rogue and wanted so to cheat, the precaution is futile; for, unless he were singularly deficient in recognising men's work, it enables him to favour his friend without incurring the discredit. It would be more dignified to declare himself incapable of such action by making the decision, knowing who the authors were. It might make him hesitate to award to the same man almost every competition he happened to be in, and prevent his overlooking merits in the plans of architects whose character and reputation and the work they had done are a guarantee that they could be trusted to carry out the work. By refusing to know the competitors, the assessor neglects what is a far more important consideration in the selection of an architect than making competition drawings. Some considerable fiascos have resulted from this cause. The faculty of winning competitions is often not a gift of the best architects. The architect who, when the competition has been decided, will be a trusted adviser with the power of the purse is treated in a competition as if he were a youth up for an examination, and the judge treats himself as if he could not be trusted to be honest. The object of a competition is to select an architect who can best design and carry out the building, and for this there are more important considerations than mark for competition drawings.

The selection of the assessor is the most important factor for the fairness of a competition such as architects who respect themselves could engage in. Why should not the competitors appoint him by their votes? It would give a better guarantee that they could trust him to understand and appreciate their designs, and, if the majority appointed one whom they thought unlikely to do so, to withdraw before they wasted their time and risked their reputation.

There would, I believe, be a better chance of just decision if there was more than one judge, as in important cases in the Law Courts. With the present difference of opinion as to what is good architecture different views of what designs are best may honestly be held; and I have known judges, in determining the merits of designs submitted to them, alter their first opinion as to which was the best on the representation of their colleagues. It might increase the cost of the competition, but that is of small consequence—would rather be a saving—if it resulted in getting the best architect and the best building. It would give more confidence to the competitors that justice would be done them, as, if they elected the judges, there would be some security that their different views of what was good architecture would be represented.

It is a fair question whether a competition should be decided by a judge having

unquestioned power of selecting the architect for the work, or by an assessor who would advise the promoters, giving his reasons for his decisions, which should be disclosed to the competitors, who should have the opportunity of explaining their own plans, in writing, and criticising the others. Absolute power is dangerous; the committee may not feel justified in abandoning all responsibility: in some law cases, civil as well as criminal, a jury, advised by the judge, decides, and they may fairly consider themselves entitled to act in this capacity. I confess I would rather trust them than some architects.

The prize of getting an important building to design is so great that architects are willing to risk labour and money on the chance. But it is mean in committees to take advantage of this. If they ask architects to compete they should pay them, and I venture to suggest that when the President or the Council of the Institute are asked to appoint an assessor in a competition, they should stipulate that the competitors invited should be paid a sum towards their outlay. In one competition for an important building an assessor so appointed provided that the competitor placed second should receive ten, the third five guineas, and that in return for these payments their plans should belong to the promoters, the others receiving nothing.

Competitions will not cease; and, wisely conducted, they might advance architecture and produce good buildings; they call out an architect's best exertions; they ought to distribute work among the profession, though somehow their result has been to accumulate it among a few men who seem to have a faculty of gaining them, though not better architects than others who from their standing and connections would naturally have been employed. They are decided, it is complained, too much on the merits of the planning and too little on the excellence of the architecture. To make them such that other architects than those who usually gain them would not hesitate to engage in them; that work done as well as the accidents of competition drawings should be an element in decision; that the judges should have the confidence of the competitors for their appreciation of art in the architecture in the various developments now prevalent,—would, I believe, advance our art, and is well worth the consideration of the profession and the Institute.

There remains in conclusion to consider the hindrances in producing good modern architecture. By these I mean the rules and regulations which restrict and hamper the designs of buildings, and are, I believe, a chief cause of the dull and monotonous appearance of modern towns. They have generally been devised by doctors and sanitary experts with the excellent and necessary object of preventing fire, and securing that houses should be stable and so constructed as not to be injurious to the health of their inhabitants. But instead of availing themselves of the knowledge and experience of architects as to the practical means of securing the desired results, they devise crude and often tyrannical rules, without adequate knowledge of building construction, and with not a thought as to the architectural appearance, or to the cost of their requirements.

It was told me by one who had the right to know that if in drawing up the Bill for the present London Building Act the County Council had instructed their architect to arrange with a body of architects, such as this Institute, the provisions for practically ensuring the necessary requirements, the £20,000 expended in carrying the Bill could have been saved, and it would have made a better Act. Instead, they apparently put into it every restriction of their sanitary faddists, which it took about that sum and much time and trouble partly to remove.

Instead of the old liberal maxim, that people should be free from the law so long as they did not injure their neighbours or themselves, modern reformers seem to delight in

making restrictions on their liberty, and in providing a host of officials to enforce them, often incompetent, but the more tenacious of their arbitrary power to have the work done to their satisfaction. The by-laws made by urban and rural sanitary authorities have to be sanctioned by the Local Government Board, which has issued Model By-laws ignoring local modes of building and reducing houses all over the country to a uniform level of dulness. Why should the ground-floor ceiling of every room be 9 feet 6 inches high, and of bedrooms 9 feet, as is decreed by the recent Police Act for Scotland? It does not ensure ventilation; on the contrary, it provides space for vitiated air to accumulate. Low rooms with windows reaching the ceiling are better ventilated, are more easily warmed; and why should they be forbidden to those who find them pleasanter to live in? It does not ensure ventilation; there are other and better modes of providing it; and it spoils cottage architecture. It is needlessly costly, and thus prevents cottages being built. This rule is framed for the dwellings of the poorer classes, to secure, what it does not, sufficient air for a number of people sleeping in the room, and is needless in houses in which the air-space is superabundant for the number of those living in it. But officials love uniformity and to reduce all differences to one level; it gratifies their sense of symmetry and it saves them trouble. What a foolish and costly provision for ensuring ventilation is the law that every sleeping room over 100 feet area shall have a fireplace and flue, never likely to have a fire in it and usually stopped up with a smoke-board!

Half-timber construction, now that the forests are gone, will be seldom advisable; but why forbid it? The houses so built have lasted for hundreds of years. It is a most charming development of Old English architecture; and why destroy old examples by enacting that, when alterations are made, they shall conform to the new laws? Thatch, by the same law, must disappear. It may not be the best covering for a roof, though reed thatch is unobjectionable. There may be risk of fire, but the danger in isolated cottages is insignificant, and it gives beauty to many landscapes.

The precautions against fire, which are wise in crowded towns with high buildings, are needlessly oppressive for houses either low or isolated. Carrying the party-walls above the roof in ranges of low houses ruins their appearance, and is unnecessary if the slates are bedded on the party-walls. In many towns it is permitted, yet fires do not spread and insurance is not increased.

In some rural by-laws, that marvellous provision of the old London Building Act, that all woodwork should be kept back $4\frac{1}{2}$ inches from the face of the wall, has been revived, after it had been removed from the new London Act. I remember a London District Surveyor's despair almost on my telling him it had: "Surely only," he said, "with special permission of the Council." He had spent his life enforcing it. We are none the worse; all the time it existed it was merely a needless tyranny.

Another needless law, showing ignorance of common knowledge of building construction, is that which compels us to put footings to walls besides concrete foundations which are perfectly sufficient for stability without them.

It would be a worthy work for this Institute if it could induce the authorities to accept by-laws ensuring the necessary results in sanitation, ventilation, fire-prevention, and stability, but drawn with common sense and knowledge of building, which would not hamper and ruin architecture and cause needless cost.

DISCUSSION OF MR. STEVENSON'S PAPER.

The President, Mr. WILLIAM EMERSON, in the Chair.

MR. WM. WOODWARD [A.] confessed to some disappointment in the Paper, and regretted that Mr. Stevenson had not been present at their last meeting, when his observations on competitions would have been very valuable. With regard to Lord Grimthorpe's work at St. Alban's, he ventured to say that had the present west front been built in the thirteenth century the Institute would have been intense admirers of it, though he admitted he could not commend Lord Grimthorpe for his work on the north and south transepts. As regards straight streets and lines of frontage, these were matters under the control of the local authorities, to whose regulations architects have to submit. He agreed with Mr. Stevenson that the regulations for fire prevention were too stringent, and that the requirements of the local authorities seriously hampered and interfered with architects' designs.

MR. LACY W. RIDGE [F.], in proposing a vote of thanks to Mr. Stevenson, thanked him specially for calling attention to the building regulations so unnecessarily thrust upon them. In London and the big towns there might be some justification for them; but in the country districts they were needlessly severe and restrictive. Last year the Institute approached the Local Government Board on the matter, and they were promised by the then Under-Secretary that some attention should be given to their representations. But since then the members of the Government at the Board had changed, and he thought it was high time to stir them up again. The matter stood thus: by the Public Health Acts the Local Government Board were responsible for seeing that the by-laws made by the local authorities were suited to the districts over which they had jurisdiction. But the Local Government Board had not only failed to exercise its supervision over the making of by-laws which were unnecessary, but by a recent Act they had increased the application of the urban by-laws in rural districts. It was a serious evil, and bore very hardly not only upon architects and their clients but upon the people generally. It was time that something like a public demonstration was made upon the subject, and influence brought to bear upon the new Parliamentary officials of the Board before the present Parliament got too old to pay heed to such matters. It was evident that the permanent officials would do nothing unless considerable pressure were brought to bear upon them. Mr. Stevenson had earned their gratitude by bringing this subject before them. His remarks upon competitions were also well worthy the attention of the meeting. He wished they had gone further, for much that was so unsatisfactory in architecture at the present time resulted from the

system of competition to which the Institute had too largely committed itself.

MR. JOHN SLATER, B.A. [F.], seconded the vote of thanks. Mr. Stevenson's Paper had been an exceedingly suggestive one. The whole gist of his remarks upon competitions went to show that on the whole they were undesirable and ineffective. He was afraid that it was impossible to do away with them, but he would venture to suggest one improvement—viz. that instead of public bodies issuing general instructions to competitors without number to send in designs, they should appoint an assessor who should select a certain number of architects to compete, that these architects should be paid, and that the assessor should decide which of their designs was the best. He agreed with Mr. Stevenson that there was no reason why the assessor should not know who the competitors were. If the assessor selected the competitors, he would do so not only from the more experienced men, but from the younger men whose work he might be acquainted with, and whose abilities would justify his belief that they were capable of producing a design worthy of consideration for the prize. With regard to the hindrances they had to contend with, he perfectly agreed with what Mr. Ridge had said. These hindrances indeed were not confined to the laws and regulations of the Local Government Board with regard to country places; but in London also architects were hampered to a most regrettable extent by the regulations of the Building Act. Ten years ago, in a Paper he had had the honour of reading before the Institute on Building Legislation, he pointed out the great objections to laying down hard and fast rules when dealing with an area which had been covered with buildings for many years. There was not a single regulation in the London Building Act that he should have the slightest objection to if it applied to new areas about to be built upon; but dealing as it did with existing areas, hindrances and obstructions were caused which prevented good buildings and perpetuated what was bad. One regulation of the Act came very often within his purview—viz. the matter of straight streets referred to by Mr. Stevenson. Nowadays most London streets are straight, except where they followed old by-ways, such as Marylebone Lane; but there was no need for the Building Act to have made it so difficult to produce little variations in the outline as it does by prohibiting projections. He had never been able to understand the need for the restriction as to bay windows. Starting from the basement, one can only carry up bay windows three stories, and the story is not defined in height; but starting with an oriel, one may go up as many stories as one

pleases. Furthermore, a bay window may be projected three feet, but if, in reconstructing an old building, even although there is an open area in front, a man wants to put a porch out, the District Surveyor raises objections immediately. Such restrictions make the streets of London stereotyped, they make them flat, and they make them unarchitectural. There was some talk lately of the London County Council going to Parliament for various improvements and amendments of the Building Act; he felt certain that if the Institute showed that some of its restrictions acted inimically to good architecture it would be possible to get the offending regulations altered or removed.

Mr. LEWIS SOLOMON [F.] said he had much pleasure in supporting the vote of thanks. When an artist of Mr. Stevenson's calibre had to complain of restrictions from the practical point of view, those restrictions must be very bad indeed; and it was the duty of all architects to put their shoulders to the wheel and insist that they ought to be considered, that they were the best judges of what was good architecture, and that they studied their clients' interests in getting good buildings erected wherever possible. It was with that object that he had brought forward his motion at the last meeting, when, doubtless owing to the bad weather that evening, there was a very small assembly present. If Mr. Stevenson had been able to be present then, he felt sure he would have had his assistance in arriving at the conclusion he sought—namely, that a committee should be appointed to study the subject, and devise means for bringing about a more desirable condition of things.

Mr. W. D. CARÖE, M.A., F.S.A. [F.], said he should like to add a word to the vote of thanks. As Mr. Slater had said, Mr. Stevenson had given them a very suggestive Paper on many points. He should like also to put a slightly different construction upon his view as to assessors in competitions not knowing the names of the competitors. He himself had on many occasions spoken strongly of the importance of the judging in a competition being entirely in the hands of an assessor independently of the committee. At the same time he fully concurred in Mr. Stevenson's view that two assessors would be very much better than one, and he should like to see two assessors appointed, with the possibility of appointing an umpire, in large competitions. If the assessor was to be the sole judge of the designs submitted, he entirely concurred with Mr. Stevenson. It was more or less an insult to the assessor to assume that he would show favouritism if he happened to know the competitors' names. But there was another point of view. Many committees—he had found it frequently the case—positively refused to let the assessor do anything but assess—they reserved to themselves the final judgment; and it was a matter of very great import-

ance, especially in committees of public bodies or large charities, that the individual members of the committees should not be acquainted with the names of the competitors. Obviously they would not allow the assessor to know the names of the competitors if they did not know them themselves. He therefore held that in cases where the assessor himself was not the final judge, it was no insult to him not to know the competitors' names. He joined with the evident sense of the Meeting in connection especially with the recent rural by-laws which had arisen under the new District Councils. He agreed with Mr. Slater that they should take the first opportunity to endeavour to get certain regulations of the London Building Act still further amended, and, in some respects, to bring them into conformity with those of some of the northern cities, which had refrained from adopting them, and had found matters go on perfectly well without them. The matter was a fresh one with regard to the rural by-laws, and since the District Councils came into power things had got worse; it was indeed preposterous that they should be confined in the way they were in dealing with rural buildings. The old London Building Act, which was discarded in London, was made to rule, and to prevent architecture eminently suitable to rural localities. He hoped that the whole Institute would put its back into this matter and endeavour to obtain some amelioration of what was ridiculous and absurd.

Mr. MAURICE B. ADAMS [F.] referred to the usefulness and interest of Mr. Stevenson's Paper, and remarked that they also owed the author their thanks for the practical manner in which he himself had realised that good architecture did not always consist in numberless features. The tone of his Paper seemed rather to be of an artistic character than dealing primarily with building laws and local Acts and by-laws which are so vexatious. Reference had been made to the restriction against carrying bay windows from the ground floor above a certain height, but oriel windows might be carried to any height one pleased. It seemed to him that it would be much better if oriels and bays could be left out entirely, seeing that their street architecture was utterly ruined by these excessive features being so unsparingly introduced. Had such details been omitted, for instance, from the buildings in Charing Cross Road and Shaftesbury Avenue a much more satisfactory result would have been obtained. It was with the view of emphasizing what Mr. Stevenson had said that he went into this question. Take a narrow frontage, where the vertical lines are necessarily very emphatic by the narrowness of the plot with which the architect has to deal. He is exercised by the difficulties of his clients requiring an immense amount of light, and the fenestration

has to be augmented beyond all control; but still it has to be done, and should there be a shop front below, the result is most disastrous. Then, to aggravate that, the architect more often than not puts all kinds of aggressive features and furbelows into it. If he could only be content to make his front quite plain, he would not be limited by the Building Act in anything like the degree that he is at present, and the result, from the artistic point of view, would be very much more satisfactory. Mr. Stevenson's own buildings, if he might say so in his presence, had always struck him as being distinguished by this breadth and simplicity, which was so pleasing and desirable. With regard to modern buildings in towns, there was another hindrance which struck him as being detrimental to good architectural effect—one they could not very well help—viz. the necessity of using so much iron. Our Transatlantic neighbours simply construct their building entirely of iron, and put a veneer of stone upon it, beginning at the top and bottom and ending somewhere in the middle. We have also methods here equally undesirable: probably a site in the City is vacant, and the owners, requiring to make as much money as possible out of it, insist that the exterior shall be erected and the inside left practically a skeleton, so that it can be portioned out with narrow partitions more or less fireproof, and ultimately let to the most advantage. Then they must have very low windows, and very high windows, with the minimum of space between the floors, going back to what he had just said with regard to the over-emphasis of openings. It seemed to him that an everyday instance like that was one of the most detrimental problems with which they had to cope, almost rendering satisfactory work impossible. He was inclined to think that the only way to deal with it would be to recognise the iron and to fill in the spaces, as he had seen done, with plaster, and not attempt to put any stonework upon it at all. Discussions of this kind helped to promote thoughtfulness on the part of members; and he thanked Mr. Stevenson very heartily for coming down to address them.

Mr. E. W. HUDSON [A.] said there was one other difficulty which had not been alluded to either in the Paper or by previous speakers—viz. the difficulty in London and in large towns of securing an adequate site in which architecture might really be seen when produced. There exist many good buildings which it is impossible to see, and which have been spoilt in planning by the inadequacy of the site. In commercial portions of London this could not well be obviated; but in the case of public buildings every effort should be made to induce the authorities to provide adequate sites. That was a subject upon which the Institute might beneficially raise its voice, and it often could do so through assessors in competitions.

MR. ASTON WEBB, A.R.A. [F.], said he should like to be allowed to add his small meed of thanks to Mr. Stevenson for his thoughtful and interesting Paper. When he saw the subject, the "difficulties and hindrances in producing good modern architecture," he made up his mind to come and hear it. They all suffered from those difficulties, and knew what they were; and when a Scotchman dealt with difficulties they generally expected that he would find a way out of them! Mr. Stevenson, perhaps, had not altogether done that, but he had certainly brightened their thoughts, and enabled them to some extent to see some light through these difficulties. If he might treat the subject in a little broader way than by going into the details of the Paper, he would like to say that Mr. Stevenson seemed a little too pessimistic about modern architecture. He must say that it was a great delight to him, a short time ago, when, one of their greatest architects being asked what he thought the finest building in the world, he was able to pitch upon an English building, and one which had been erected in his own time. Well, if they could turn out one of the finest buildings in the world in a generation, they need not be so very despondent about their art. That building was St. George's Hall, which Mr. Stevenson had referred to; and the previous generation had the distinction and privilege of seeing the Houses of Parliament put up, which many would agree was also one of the finest buildings in the world. Those two buildings, I may mention in passing, were both the results of competition, which every one now seemed to agree was such a very degrading process. He would express no opinion upon that, one way or the other. One of Mr. Stevenson's remedies was the study of old work, and he supposed everyone in the room would agree that the study of old work was essential for the production of the new; and yet he would rather hope and plead that to the rising generation there should be some other hope held out as well. We who have been at it so long have certainly lived on and studied old work; we have lived in memories, and these buildings which have been put up in the last century are memories of those which were built long before. We have dallied, if he might say so, in a garden of memories, and a very delightful and happy time we have had; but he fancied that the younger men, who have not known those delights, would have to look forward to something more; and while looking back they would also have to look forward into what he might call the workshop of hope, and, not forgetting what has been done before, would have to develop some new line of departure and effort. The difficulties and hindrances to architecture, like all other matters in life, are often after all for our greatest good; it is the restrictions, the limitations, the difficulties and the hindrances that perhaps bring out our best energies and our best work. When

they remembered that the Paper read that evening was by the architect of the Red House in the Bayswater Road, they saw that those difficulties and those hindrances did not necessarily interfere with the production of excellent, quiet, domestic architecture, which passers-by delighted in, and felt that there at any rate those restrictions had not interfered with the production of something which was delightful and good. That we must have restrictions was certain, and also that our work, however great a pleasure it is to us, must be brought out through travail and labour; for as gold is tried by fire so we must be tried by pain.

THE PRESIDENT thought that Mr. Webb had hit the right nail on the head in speaking of Mr. Stevenson's views as to the architecture of the present time being a little pessimistic. He supposed even Mr. Stevenson could hardly expect that every man in the profession could be an artist of the highest class; but there was a sufficient sprinkling of very clever architects amongst the number, and that others are rising was conclusively shown by the student's work. There was room for hope that the architecture of the new century might not be so very far behind some of that produced in the last, such, for instance, as the two buildings Mr. Webb had referred to. It seemed to him that Mr. Stevenson's Paper was an artist's wail against fetters: he does not like to be constrained by anything; there must be no County Councils or local bodies to impose restraints upon us. This wail must have struck a sympathetic chord in the hearts of most of them. All who have had buildings to design in our modern towns, and have experienced the complexities of modern work, must feel that the thousand and one different rules they have to conform to tend to wear their lives out. With regard to competitions, there was a great deal to be said on both sides about them; but he thought that the proper conduct of competitions depended really on members of the profession themselves, almost more than on the promoters, because if architects would rush into competitions on the smallest provocation, on the unfairest of terms, with the vaguest chance of getting a piece of work, they could only blame themselves if promoters did not always take the trouble to make proper conditions and appoint a competent assessor. The Institute did all it possibly could to improve matters. Only the other day they wrote a letter to a committee pointing out the unfairness of their published conditions, and they received a most insulting reply, saying that their interference was unwarrantable. The Institute, indeed, had great difficulties in getting its way in many of the competitions now promoted. With regard to the Rural Districts by laws, the matter had been under consideration by the Council only that afternoon, and they had determined to approach the Local Government Board again on the matter.

MR. STEVENSON, in responding, said he agreed with Mr. Webb that the kind of difficulties to which he referred were not a hindrance to good architecture; on the contrary, some of the most interesting features in architecture had been attained by the architect getting over them. Difficulties were an architect's opportunities. In saying that architecture now did not attain to the perfection of the old, he had referred to the great majority of buildings now erected as compared with former times when none were bad—not to special buildings, some of which could stand comparison with the old. One speaker had thought that he was “agin all law.” On the contrary, he had said that the chief difficulty for architects at the present time was their freedom—that they could do what they liked—they were not restrained. He agreed with Mr. Adams in condemning the restlessness of some newer streets—as shown, for instance, in Shaftesbury Avenue—as contrasted with the restrained quiet of old ones depending for their architectural effect on good proportion, not on striking “features” about the buildings in the belief that that was architecture. As well say good writing consisted in strong adjectives. Mr. Hudson had said the inadequacy of the sites made good architecture difficult. But the photographs of old streets hung on the walls showed what good buildings and what excellent effects could be got in narrow streets and sites which would now be considered quite inadequate. The architectural effect of the Strand was better than that of Oxford and Cambridge Terrace. Width in a street did not ensure ventilation. Greater movement of the air would be got, and far better architectural effect secured by wider open spaces and narrower streets opening into them, than by the monotony of streets all exactly the same width which the building Acts produce. As to the assessor in competitions, one speaker had advised that he should be given even more power than he had—that he should not only decide the competition but select the competitors. He had endeavoured to show that the assessor had too great arbitrary power already. Another speaker had objected to the names of the competitors being known, because, though the assessor might be above suspicion of favouritism, members of the committee might not be. But in that case also concealment would be futile, for the competitor whom members wished to favour could tell them which design was his, and they could favour it without incurring any discredit. What was wanted was perfect openness: let everything be above-board; let the competitors put their names on the drawings, let the assessor give his report or the judge his decision, *with their reasons*, and let these be known to the competitors; and he would also strongly urge them to try the plan of allowing the competitors, when appointed, to elect the assessor.



9, CONDUIT STREET, LONDON, W., 26th Jan. 1901.

CHRONICLE.

Death of the Queen.

The President, on behalf of the Institute, addressed a telegraphic message of condolence to the King, on Wednesday, 23rd inst.

The following acknowledgment was telegraphed from Osborne on Thursday:—"Am commanded by the King to thank you and Council of Royal Institute of British Architects for your kind expression of sympathy.—EQUERRY."

THE PRIZES AND STUDENTSHIPS, 1901.

The Deed of Award.

To the General Meeting, 21st January 1901:

GENTLEMEN,—Pursuant to the terms of By-law 66, that the Council shall, by a Deed or Writing under the Common Seal, award the Prizes and Studentships of the year, and announce such awards at the next General Meeting after the adjudication, the Council have the honour to state that they have examined the several works submitted for the two Silver Medals of the Royal Institute, the Soane Medallion, the Owen Jones and Pugin Studentships, the Godwin Bursary, the Tite Prize, and the Grissell Gold Medal.

THE ROYAL INSTITUTE SILVER MEDALS.

(i.) *The Essay Medal and Twenty-five Guineas.*

Three Essays on the Comparative Desirability of the Formal or Irregular Treatment of Street Architecture in Large Cities were received for the Silver Medal under the following mottoes:—

1. "For Truth and Dignity."
2. "Modus in Rebus."
3. "Per Ardua."

The Council have awarded the Silver Medal and Twenty-five Guineas to the author of the Essay bearing the motto "Modus in Rebus" [Arthur Maryon Watson [A.], 9 Nottingham Place, W.], and a Certificate of Honourable Mention to the author of the Essay bearing the motto "Per Ardua" [W. Curtis Green, 63 Bedford Gardens, Campden Hill, W.].

(ii.) *The Measured Drawings Medal and £10. 10s.*

Eight sets of Drawings were sent in, of the several buildings indicated, and under motto, as follows:—

1. Archer (St. John's Church, Westminster).
2. Cannon (device) (Burghley House, near Stamford).
3. Cross Keys (Walpole St. Peter's, Norfolk).
4. Petrel (Holy Trinity Church, Hull).
5. Roda (Church of St. Magnus, Fish Street Hill).
6. Semper Fidelis (Guildhall, Exeter).
7. Stafford Knot (Kirby Hall, Northants).
8. Tressilian (Stoke Priory Church).

The Council have awarded the Silver Medal and Ten Guineas to the delineator of Kirby Hall, submitted under the motto of "Stafford Knot" [Lawrence L. Bright, 3 Villa Road, Nottingham], and Medals of Merit and Five Guineas each to the delineators of St. John's Church, Westminster, and Burghley House, submitted under the motto of "Archer" [A. Wyatt Papworth, 10 Park Place Villas, Maida Hill, W.], and device of a Cannon [Henry Francis Traylen [A.], 15 Broad Street, Stamford] respectively.

THE TRAVELLING STUDENTSHIPS.

(i.) *The Soane Medallion and £100.*

Twenty-two Designs for a Club House in a large City were submitted, under the following mottoes:—

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| 1. Ace. | 12. Ivanhoe. |
| 2. Ace of Clubs. | 13. Melba. |
| 3. Ars. | 14. Pan. |
| 4. City. | 15. Pembroke. |
| 5. Desormais. | 16. Post Fanum Vacunæ. |
| 6. Elsa. | 17. Q.E.F. |
| 7. Fordingbridge. | 18. Red Seal (device). |
| 8. Grex. | 19. Rime. |
| 9. Hal. | 20. Thistle. |
| 10. Hiawatha. | 21. Thor. |
| 11. Ionic. | 22. Ultimus. |

The Council regret that they are unable to award the Soane Medallion, but they have voted sums of Thirty Guineas each to the authors of the designs submitted under the mottoes of "Ars" [Matthew James Dawson, 87 Ossington Street, Bayswater, W.], "Hiawatha" [H. Munro Cautley, The Rectory, Westerfield, Ipswich], and "Ionic" [J. B. Fulton, 10 Rothwell Street, London, N.W.] respectively.

(ii.) *The Owen Jones Studentship and £100.*

Six applications were received for the Owen Jones Studentship from the following gentlemen:—

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| 1. E. Bennett. | 4. Percy E. Nobbs. |
| 2. D. T. Fyfe. | 5. Hervey Rutherford. |
| 3. James McLachlan. | 6. Ramsay Traquair. |

The Council have awarded the Certificate and (subject to the conditions, among others, that the said candidate devote a tour of not less than six months' duration to the improvement and cultivation of his knowledge of the application of colour as a means of architectural expression, and furnish the Council with an original design in coloured decoration of a prescribed subject) the sum of One

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Hundred Pounds to Mr. J. Hervey Rutherford, 7 Dalrymple Crescent, Edinburgh; Medals of Merit to Mr. Percy E. Nobbs, M.A. [A.], 49 Queen Street, Edinburgh, and Mr. Ramsay Traquair [A.], 8 Dean Park Crescent, Edinburgh; and a Certificate of Honourable Mention to Mr. Edward H. Bennett, 18 rue Bonaparte, Paris.

(iii.) *The Pugin Studentship and £40.*

Nine applications were received for the Pugin Studentship from the following gentlemen:—

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| 1. H. Comyn. | 6. C. B. Pearson. |
| 2. James C. Cook. | 7. Harry Phibbs. |
| 3. Henry Wm. Cotman. | 8. A. J. Pitcher. |
| 4. Shirley Harrison. | 9. J. Forbes-Smith. |
| 5. Frederic J. Horth. | |

The Council have awarded the Medal and (subject to the condition, among others, that the said candidate devote a tour of not less than eight weeks' duration in some part of the United Kingdom to the study of Mediæval Architecture) a sum of Forty Pounds, to Mr. Henry Wm. Cotman, 138 Amesbury Avenue, Streatham Hill, S.W.; a Medal of Merit to Mr. J. Forbes Smith, 8 Hope Park Terrace, Edinburgh; and a Certificate of Honourable Mention to Mr. A. J. Pitcher, Sebright Avenue, London Road, Worcester.

(iv.) *The Godwin Medal and £40.*

One application was received for the Godwin Bursary.

The Council have decided not to award the Bursary this year.

(v.) *The Tite Certificate and £30.*

Twenty-six Designs for an Entrance Gateway to a Public Park were submitted under the following mottoes:—

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| 1. Lion (device). | 14. Nep. |
| 2. Alfio. | 15. Nocturne. |
| 3. Arc. | 16. Pencil. |
| 4. Boadicea. | 17. Royal. |
| 5. Civis. | 18. Rus in Urbe. |
| 6. Corona. | 19. St. Andrew. |
| 7. Englishman. | 20. St. George. |
| 8. En Règle. | 21. San Gallo. |
| 9. Fiori. | 22. Spes. |
| 10. Labor ipse voluptas. | 23. Tay. |
| 11. Le Nord. | 24. Tenax Propositi. |
| 12. Leo. | 25. The Bard. |
| 13. Marble Arch. | 26. Utile Populo. |

The Council have awarded the Certificate and (subject to the condition, among others, that the said competitor, after an absence of not less than four weeks, shall submit satisfactory evidence of his studies in Italy) a sum of Thirty Pounds to the author of the design bearing the motto "Corona" [William Fairbairn, 9 Spence Street, Edinburgh], a Prize of Ten Guineas to the author of the design bearing the motto "St. George" [Ralph Knott, 66 Oakley Street, Chelsea], and a Certificate of Honourable Mention to the author of the design bearing the motto "Marble Arch" [William Arthur Mellon, c/o E. N. H. Spencer, Esq., Odsey Grange, Ashwell, Herts.].

PRIZE FOR DESIGN AND CONSTRUCTION.

The Grissell Medal and £10. 10s.

Eighteen designs for a Timber Footbridge across a Stream were submitted under following mottoes:

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| 1. Intersected crescents in circle (device). | 10. Pons Asinorum. |
| 2. Draughtsman. | 11. Quaver. |
| 3. Firenze. | 12. Red Quatrefoil (device). |
| 4. Forward. | 13. Shingle. |
| 5. Ilex. | 14. Spes. |
| 6. Inter alia. | 15. Telford II. |
| 7. Juno. | 16. Trabs. |
| 8. Koppernob. | 17. Truss. |
| 9. Peck. | 18. Utile Populo. |

The Council have awarded the Medal and Ten Guineas to the author of the design bearing the motto "Pons Asinorum" [Edwin Forbes, 17 Buckingham Street, Strand, W.C.].

THE ASHPITEL PRIZE 1900.

The Council have, on the recommendation of the Board of Examiners (Architecture), awarded the Ashpitel Prize (which is a Prize of books value Ten Pounds sterling, awarded to the candidate who has most highly distinguished himself among the candidates in the Final Examinations of the year) to Mr. Shirley Harrison, of Leicester. Mr. Harrison was registered *Probationer* in 1897, *Student* in 1898, and passed the Qualifying Examination for Associateship in November 1900.

The Council have further awarded extra prizes of Five Guineas each to Mr. C. H. F. Comyn [A.] and Mr. C. E. Varndell [A.], who passed the Final Examination in June 1900.

THE TRAVELLING STUDENTS' WORK.

Owen Jones Studentship 1899.—The Council have approved the drawings and design executed by Mr. John Stewart, who was awarded the Owen Jones Studentship for 1899, and who travelled in Italy, Greece, and Spain.

Pugin Studentship 1900.—The Council have approved the work of Mr. James McLachlan, who was awarded the Pugin Studentship for 1900, and who travelled in Norfolk, Lincolnshire, Northamptonshire, and Warwickshire.

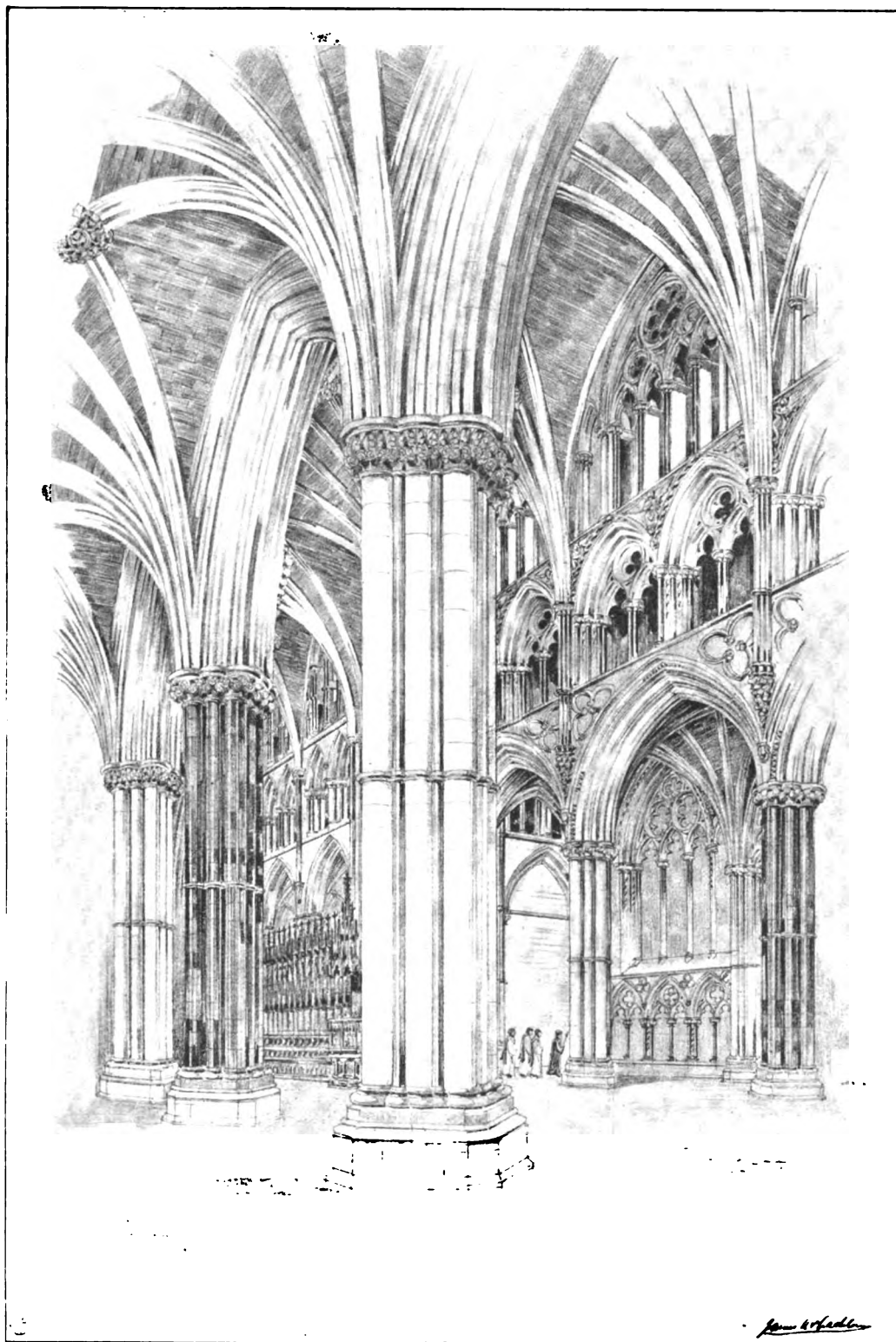
Tite Prize 1900.—The Council have approved the work of Mr. Percy Erskine Nobbs [A.], Tite Prizeman 1900, who travelled in Italy.

In witness thereof the Common Seal has been hereunto affixed this Twenty-first day of January 1901, at a Meeting of the Council.

(Signed) WM. EMERSON, *President*; EDW. A. GRUNING, *Vice-President*; ALEXANDER GRAHAM, *Hon. Secretary*; R. PHENÉ SPIERS, H. H. STATHAM, THOS. BLASHILL, *Members of Council*; W. J. LOCKE, *Secretary*.

Reinstatement of Member.

Mr. William Vaughan, of 5, Lower Grosvenor Place, S.W., has been reinstated by the Council Associate R.I.B.A.



CHOIR OF LINCOLN CATHEDRAL.
From a Drawing by Mr. James McLaughlin, *Pugin Student* 1900.

THE USE OF PERSPECTIVE.

By T. RAFFLES DAVISON [H.A.].

THE Royal Institute of British Architects did Mr. H. W. Brewer and myself the honour, some little time ago, of electing us Honorary Associates of the Institute, presumably as some sort of recognition of the many years spent by us in the perspective representation of architecture. No doubt Mr. Brewer, equally with myself, highly esteemed the honour. Certainly in Mr. Brewer's case such honour could not be regarded as other than a genuine tribute to the invaluable work he has achieved in the pictorial elucidation of architectural design. And yet at a meeting of the Institute the other day it was decided that the perspective view was an unnecessary item in competition drawings. This, too, after the recent competition for the new Strand frontages, in which only elevations were permitted, and which, when exhibited, conveyed no understandable idea of their complete and actual representation as parts of the great improvement scheme.

Possibly I may not be regarded as an impartial critic. My view of architecture must necessarily be in perspective. That is to say, I have learnt to look upon architecture as it really appears in its concrete form, and not in the light of the architect's working drawings—to think chiefly of the *end* and less of the *means* by which it is reached. Whether an architect can put up a building from geometrical drawings, or without drawings at all, does not affect my view of the question, which simply is, to be able to understand what a building will be like when it is finished. It is of real importance to know what is going to happen when one has to use one's eyes to realise it.

The objection to perspective drawings seems to me to be indicative of a growing feeling against ornamental drawing. The depreciatory criticism one frequently hears in respect to architectural drawing as an art in itself must likewise be considered a sign of the times. For this kind of mental aberration—let us hope it is only temporary—we may find a parallel in the feeling which prompts a man to leave a life of luxury and pleasant social surroundings in order to become a monk or a "slummer." It is like the affectation of simplicity by the very luxurious, and those whose minds are wholly beset by the complexities of modern life, and who have no real simplicity of character at all. It is parallel to that condition of mental disturbance which inspires certain very able architects to give us broken pediments, fussy details, and heavy proportions as their contribution to architecture, because they desire to take up the sequence of a style. Or it may be found in the case of the clever Gothic architect who elects to endow a beautiful modern Gothic church with heavy archaic Byzantine stalls and altar table!

My contention for the proper appreciation of perspective drawing only extends to that which can be accepted as a fair and truthful setting-out of an architectural design. I would not contend for any adventitious prettiness, but only for truth. One desires to know the truth about a building (however good or even bad it may be). In fact, the designer's own careful pencil sketch, or rough but accurate perspective outlines, such as were prepared for at least one of the Strand frontages designs, would be enough when they could be obtained. And this perspective is not required merely for the poor lay committee men, who mayhap would like to understand, if they might, what sort of a building they were going to get for their money. It is in some sort an axiom that an architect must always *think out* his design in perspective; it is a still more solid fact that he has to build in perspective. Therefore it is surely in his interests quite as much as in those of the lay committee man that the argument in favour of perspective drawing should be strongly held. He needs to know, more than anyone else, exactly how this or that feature or proportion will work out in perspective. It has been my privilege in my own work to enjoy the confidence of many able architects in regard to suggestions and improvements, *studied by them in perspective*, and that such study immensely helps the final result cannot, I am sure, but be admitted. The alteration of a hip, the increase of a projection, the adding of a new feature or the removal of an unnecessary one—nay, possibly the alteration of the whole design—may come about with this study in perspective. One could enumerate many buildings to illustrate the point. Compare the elevational drawings of Mr. J. W. Simpson's Cartwright Memorial Gallery at Bradford with the view lately published. Or take the Strand frontages designs as further examples. Would it be believed that some of those most nearly interested did not realise from the elevations that there was a street of 100 feet passing between the *Morning Post* offices and the new Gaiety Theatre buildings, but really thought they were all joined together in one long line of frontage!

The truth of the matter is, it is the elevation which is the dangerous and misleading item in the illustration of a design. Things which look well enough in elevation have a trick of turning up very queerly in perspective. But if the architect studies his work in perspective he has fewer surprises in store for himself and others when the building comes to be erected. The day for elaborately shaded elevations—*à la* Beaux-Arts direction—is gone by. Nowadays we mostly desire to get to the root of things, and realise the finished result as quickly and clearly as possible. The most lightly touched in perspective, if accurate, is better as a realisation than any number of highly finished elevations. The elevation should

not come to be regarded as other than a means to an end, and is still so used, but no doubt at the present rate of progress it will ere long become obsolete, and the architect—probably dressed in corduroy—will sit in a hut on the job, peacefully smoking his pipe, and directing the arrangement of the building on the site—nearer yon tree, or further down that slope—unaided by any medium save the judgment of his eye!

Illusion and Sham constitute the great evil of the present day, and they find their outlet in certain affectations springing up in modern life. Whither will affectation lead us in regard to this question of architectural drawing? And what are we to expect when an accomplished draughtsman like Mr. Weir Schultz, in his well-meant and, in some respects, sound advice to architectural students, drags the art of drawing under the chariot wheels of Progress and Practicality? Is the art of drawing, *per se*, to disappear from the ambition of an architect altogether? If merely sound building, practical construction, and elevational setting-out of solids and voids were all that we needed in architecture, then might we accept elevations as the be-all and end-all of architectural drawing. But if we desire any poetry or romance, any vision of fancy or splendour, how shall we obtain results of nicely-adjusted outline and mass, of projecting cornices, oriels and bays, of receding faces, galleries, balconies, spires, towers and turrets, by the mere study of elevations? I should like to ask whether the daring—I might say romantic—character of Professor Beresford Pite's early drawings has interfered with his practical ability or soundness of design? It is a pleasure to find him still upholding the advantages of good drawing. Even a hospital architect cannot nowadays ignore architectural effects. An asylum scheme covering twenty acres of ground, with buildings of varying height and character, but all subordinated to one central group, cannot be set out and realised in one elevation, or many. As our noses get closer and closer to the grindstone in this hurrying modern life, we like to dispense with all that is unnecessary; but, till our eyes are differently organised, we shall still have to look at everything in perspective.

It might be suggested that the art of architecture consists in producing perspective in actual building, and not merely on paper. Which is true enough; but all the same an architect *has* to be an adept at perspective. Some accomplish it in the building only; some only manage it on paper. But the best architect is the one who realises it in both ways. Those architects who taboo perspectives would, I suppose, admit the soft impeachment that they are able to realise the perspective effect in their mind's eye! In fact, they do this so well as to be able to quite dispense with the labour of transferring it to paper. They could calculate the receding surface of a dome exactly, at one, two, or three hundred

feet from the building, and also at any stated height from the ground. The accuracy of the result would preclude any necessity for realising it on paper. And yet I wonder how many practising architects could give a fair perspective record of an Ionic Greek capital, with all its dainty refinement, looking up at it from beneath, not necessarily by going abroad to do it, but just setting it out from consideration of the plan and elevation.

Though some really able architects can design good buildings without much accomplishment in drawing, I would point to Messrs. Leonard Stokes, Ernest George, Beresford Pite, Aston Webb, T. G. Jackson, H. J. Austin, and Reginald Blomfield as men who can, and do, think in perspective, who can draw perspective as well as build perspective, and who, because they happen to be engaged in the noblest art of all, do not disdain the art of drawing, either as to its usefulness or its purely artistic value. The perspective drawings by the above-named architects are amongst the pleasant memories of us all, and, strongly as they might protest against the foolish waste of time spent on architectural drawing as an art, they would, I am sure, admit that they had derived both pleasure and profit from the pursuit.

It seems to me such a ludicrous topsy-turvydom of things to alienate the pictorial representation of architecture from its practical study and pursuit that I would fain imagine it to be only a passing affectation, which will not long survive. For my own part I would urge the architectural student to think incessantly of the perspective result of his creation; to try and realise all his buildings in the mass, as objects having length, breadth, and thickness; to draw unceasingly and carefully; to learn to draw *well*; to so practise the perspective of every part of a building that by this very practice he will help the realisation in his mind of what he desires to create; to cultivate wide sympathies for art in every phase, as by so doing he will be the most likely to be successful in his own particular work. Let the student at least thank Heaven that, though perspective drawing might be abolished by law, he would still have the world around him, all in proper perspective, so that life need not be flat—as an elevation!

One does not live to middle age without knowing well enough that our own individual opinion is of little importance. But, in conclusion, I would like to say that few perhaps have had so wide an experience of perspective drawing as myself; fewer still have derived more pleasure from the practice of it; and none has more sincerely desired to render it a truthful and helpful representation of architectural design. These considerations, together with the real and deep interest I feel in the art so dear to us all, must be my apology for thus trespassing upon the space of the R.I.B.A. JOURNAL.

REVIEWS.

LINE AND FORM.

Line and Form. By Walter Crane. 8s. Lond. 1900. Price 12s. net. [Messrs. George Bell & Sons, York Street, Covent Garden, W.C.]

The question that will probably occur to anyone perusing this book is this: "Were the students in the Municipal School of Art in which these lectures were delivered persons of more than ordinary density of intellect?" or, indeed, does the writer believe art students generally to be devoid of understanding? If not, why so much iteration upon simple points which only needed to be stated in a few words to be really useful? Mr. Crane, who can so often delightfully express much with a few strokes of his pencil, seems when he takes pen in hand to be overpowered by detail. His immediate object is smothered by convolutions of words. And even while he is elaborating one exposition, another occurs to him, to be also stated in many words. Or again, while some question of "form" or "line" is under consideration, the use of the word "textile" will start him off on a detailed description (with illustrations) of the process of tapestry-making. The fact is that the author does not sufficiently co-ordinate his matter. Instead of selecting from his large resources what will really serve to make his point, and to fix it on his students' attention by stating it in clear language, he throws his reader's mind into confusion by enormously long sentences and a dispersion of interest.

Of the many drawings with which the book is illustrated, some of those of plant-form, both natural and conventional, are charming; nor could there be much better example of the distinction between the two methods of rendering than the "Olive Branch" from Nature (page 29), and the same treated decoratively on the next page. On the other hand when, immediately afterwards, the author, on page 33, gives the "Horned Poppy" (which takes its very name from the *rigidity* of its long pods) as designed for a panel, and shows the said pods treated like the arms of an octopus, in sinuous wanderings, all identity is lost; and it is not even a conventional horned poppy. In discussing lines of movement, Mr. Crane has one very ingenious illustration, a diagram of the successive positions of the over-hand bowler. In effect his deduction is justified. It is difficult to understand that anyone who is ever likely to draw can be assisted by the methods illustrated on page 11, where, in one case, horse and man are gradually put together of ovals of all sorts and sizes; in the other, they are built up of innumerable bricks or blocks. To mark out, in block, the main forms or masses is one thing; but the student who needs to build up the human form in square bricks (ten or a dozen

to each leg) had surely better choose another calling.

To sum up, the book, as coming from a designer of such eminence, is disappointing. It too often happens that a man may be master of his subject, have thought it all out theoretically, and never be at a loss for a reason in his own procedure; yet when it comes to imparting to others that which is so familiar to himself, he has not the gift of so sorting, selecting, and arranging his matter as to convey clear and consecutive impressions. There is no proportion. The "general" and the "particular" are mixed up. The reader's mind cannot jump from one to the other so easily. Nor can it master, without exhaustion, such sentences as that in the middle of page 99, which is fairly typical of the book. There is much careful thought and analysis; but it would have had twice the value had it been put into fewer words and into more systematic order.

J. D. CRACE.

IRON AND STEEL CONSTRUCTION.

Structural Iron and Steel. A Text-book for Architects, Engineers, Builders, and Science Students. By W. N. Twelvetrees, M.Inst.C.E., &c. "The Builder" Students' Series. 8s. Lond. 1900. ["The Builder" Office, 46 Catherine Street, Strand, W.C.]

If architects young and old realised, as some engineers do, the "human nature" (so to speak) of the materials which they employ, such higher intelligence and deeper insight on their part would not only add greatly to the charm and interest of their professional work, but would also powerfully tend to restore the architect to his long-lost status of head-master of technical knowledge and work, a status which the word "Architect" so tersely and fully expresses. Many things taught in Mr. Twelvetrees' book are what architects too generally neither know nor think of, and yet things of which every architect should feel ashamed to be ignorant. If stones and bricks and timber and iron could only tell in good plain Saxon the stresses and distresses which some of them silently endure, while others of them are doing and bearing nothing, but are imposing additional loads on the rest, many an architect who is now indifferent to the excess of suffering on the one hand and of idleness on the other of all that costly material employed by him so blindly and blunderingly would be brought to book; and would be judged by public opinion as unfit to be entrusted with the tasks and responsibilities which only those who do realise the "human nature" of structural materials are qualified to discharge. If all the lazy and extravagantly costly material, and all the overstrained and half-murdered material, of a building could express its heartfelt judgment of the architect who assigned each portion its task, the chorus of "Fool! Fool! Fool!" would be so

many-voiced and persistent that the near neighbourhood of his own buildings would prove unendurably tormenting to many an architect who to-day feels a vulgar pride in his showy creations as he struts past them.

The principle of Proportion, which is the true foundation of all architecture worthy of the name, extends not only to fenestration and intercolumniation and to mere externals, but permeates the whole structure in its unseen as well as seen parts, and demands from the architect that penetrative and analytical intelligence and skill which are so admirably exemplified in Mr. Twelvetrees' book. The mean shifts to which ignorance degrades even those "eminent" architects who are always careful to cast their own proper responsibility on the shoulders of the poor victimised contractor, would be rendered unnecessary if such architects would take the trouble to thoroughly acquaint themselves with the constructive principles taught by Mr. Twelvetrees' book and by similar books on constructive science. One case alone, without mentioning names, will serve to illustrate the mean shifts alluded to. In a large new public building, costing more than £100,000, the flat ceilings of some very large oblong wards are very properly of concrete, as preventive of fire. To support this concrete ceiling the architect placed one steel girder or joist in the middle of the ceiling, running longitudinally so that its span was the full length of the very long ward, with no supporting columns. Over that longitudinal girder, and resting across it, he placed steel joists transversely at regular intervals. The concrete was cast upon this foundation of steel joisting. As a natural result, some time after the new building was occupied, it was found that the longitudinal girder had sagged more than four inches, and all the ceiling had of course sagged with it. Then there was the devil to pay; and the question arose who should pay him. The architect was appealed to. But *he pointed to a clause in the specification which made the contractor responsible.* No doubt the common sense of the contractor and his foreman should have warned them against that wrong arrangement of the supporting beams. But their confidence in the skill of the "eminent" architect seemed to have stultified their own practical judgment.

No person—be he builder or architect—who had carefully studied Mr. Twelvetrees' able book would be driven by ignorance to such a mean shift as that of this "eminent" architect, nor to such ill-judged compliance as that of this careless contractor. Fantasy and whimsy nowadays threaten in our architecture to usurp the authority of proportion, too many an artist hiding his ignorance of structural science under a mask of vulgar elevational fandangles. "Why should I bother my head with strains and stresses? I am

not an engineer, and don't profess to be. I get a young consulting engineer, who has his office in a by-street round the corner, to do all my stress calculations for me." This is the case of too many a modern practitioner, who might with propriety claim the Yankee title of "house artist," but who most improperly poses as an architect.

A connection undoubtedly exists between the structural science and the æsthetic quality of architecture; for beauty is not an abstract self-existence quite independent of the *fitness* of things. For example, the Parthenon in marble is beautiful. Would it be equally beautiful in iron? Nay, could anything more ghastly or repulsive as a building be conceived than the Parthenon in iron? Proportion, as properly understood, is proportion of strength to duty. Proportion is not the only factor of fitness, but it is a chief factor; and architects who make themselves thoroughly conversant with the principles taught in Mr. Twelvetrees' book will be all the better enabled to introduce the beauty of proportion into their modern designs in steel. A steel bar of a building may be in itself as ungracious to the eye as the bare bone of a human figure. Still, as the proportions and fitness every way of the bones are main factors of the beauty of the human form; so the excellent designing and scientific adjustment of the steel members of a building (though rightly cased and covered, not only for beauty, but as protection from rust and fire) may go far to determine its æsthetic quality.

A keener perception of this deeply influential relation between science and beauty might well induce modern architects to study the work under notice as a byway, if not a highway, to the beautiful. The earlier portion of Mr. Twelvetrees' book gives a very lucid, though necessarily elementary insight into those processes of iron and steel manufacture which every architect should know at least this much about. The descriptive passages are so plain that readers who have never visited ironworks will understand them; though, of course, those who have visited ironworks will realise the facts more vividly. In that portion of the book which deals expressly with the science of stress and strain, the author wisely minimises as far as practicable mere formulæ and mathematical expressions; and he entirely excludes from his pages expressions of the *calculus*, which would have proved stumbling-blocks rather than aids to the bulk of his readers. At the same time, to one who can read between the lines, the self-restraint of the author is here and there evident in his purposely leaving certain coefficients unexplained, because their elucidation would involve a higher range of mathematics than the limits of the book admit of; these few cases are, however, very exceptional, as nearly all the coefficients and formulæ used in the book are explained with an extreme perspicuity which

renders the book specially valuable to those students who are not content with acquiring mere formulæ parrot-wise, but who desire to make themselves intimate with the fundamental principles involved in the formulæ.

Of course, in a book of this kind there must be old as well as new matter. The old matter, however, is so admirably elucidated by Mr. Twelvetees that it is a most instructive as well as pleasurable exercise to read his lessons and demonstrations. But there is in the book also not a little that is *new*: especially the section which teaches the analysis of bending moments of beams; wherein the author shows that the common method of estimating the required strength by "the greatest bending moment" due to a regular load does not necessarily provide strength enough to meet cases of irregular loading such as may and do occur in practice.

Another very valuable section is where the author demonstrates the unreliability of the published girder-sheets issued by merchants and manufacturers; his warning on this point is very necessary to prevent disagreeable surprises.

The author's treatment of the strength of joints in iron and steel structures is very extended. But he deals rather too cursorily with the extremely important details of jointing columns superimposed on columns, and steel joists crossing the same. There are ways of obtaining vertical continuity of column, and at the same time horizontal continuity of joist, at such points which the author does not wait to explore.

On page 193, lines 16 and 18 from top, the word *beam* is twice used with a somewhat confusing effect, as the word *cantilever* is what the author means.

On page 193, 9th line from top, if after the "*free end*" the words were added, *i.e. from the point of application of the load*, the principle involved would be rendered more obvious to the student.

On page 195, 15th line from top, the expression *M* should be changed to *M_x*.

Although the author's treatment of the subject of bending beams is an advance on the usual textbook treatment, he does not deal with the bending as a dynamical question, which it really is; and therefore his teaching also, though very useful so far as it goes, is really superficial after all. A beam cannot bend without moving, and any future writer who finally evolves a fully satisfactory theory must not fail to take the motion into proper account.

On page 213 the author uses rather peculiar language when he says, "Some beams, chiefly those of solid rectangular section, behave in an unreasonable manner when exposed to transverse stress." He here recognises the "human nature" of the material in having a will of its own, and not behaving according to the theory which is sought to be imposed on it.

In this connection the author might have pointed out at least one particular in which commonly applied theory is greatly at fault—viz. in assuming that the tensional or compressional strength of material varies simply as its sectional area. Seeing that this untrue assumption underlies the whole of the theories which the author quotes when he accuses the beam of unreason, one feels ready to lay odds on the sanity of the beam rather than on that of the author!

Taking Mr. Twelvetees' book as it stands, it must be regarded as a very excellent digest of accepted rules of practice, which is likely to prove a standard work running into many future editions. When a man imagines that the few facts which he has gathered from the fringes of physical science constitute the whole law and gospel of any section of knowledge, the enemies of such a man would urge him to write a book. That Mr. Twelvetees is far removed from such a condition of mind is evidenced throughout his pages by repeated signs of consciousness on his part that he is leaving unsaid much that is well known, more that is not so well known, and yet infinitely more that is unknown though discoverable. There can be no finality in structural science, and any new book which fails to recognise this would be quite undeserving of notice. This, however, is certainly not the failing of Mr. Twelvetees' book, which indicates on every page its title to a grateful welcome by the architectural profession, which sorely needed it.

Sunderland.

FRANK CAWS.

MINUTES. VI.

At the Sixth General Meeting (Ordinary) of the Session 1900-1901, held Monday, 21st January 1901, at 8 p.m., the President, Mr. William Emerson, in the Chair, with 32 Fellows (including thirteen members of the Council), 37 Associates (including one member of the Council), one Hon. Associate, and visitors, the Minutes of the Meeting held 7th January 1901 [p. 116 *ante*] were taken as read and signed as correct.

The decease was announced of John Burnet, *Fellow* of Glasgow; and on the motion of the Hon. Secretary it was resolved that a message of sympathy and condolence with his relatives be conveyed to them from the Institute.

The following members attending for the first time since their election were formally admitted and signed the respective Registers—viz. Charles Edward Mallows, *Fellow* (Bedford); Charles Archibald Daubney, *Associate*.

The Secretary having read the Deed of Award of the Prizes and Studentships 1901, made by the Council under the Common Seal [p. 129], the sealed envelopes bearing the mottoes of the successful designs and drawings were opened, and the names of the authors declared [see DEED OF AWARD].

Mr. J. J. Stevenson, F.S.A. [F.], having read a Paper on THE DIFFICULTIES AND HINDRANCES IN PRODUCING GOOD MODERN ARCHITECTURE, a discussion ensued, and a vote of thanks was passed to the author by acclamation.

The proceedings then closed, and the Meeting separated at 10 p.m.



THE COMPARATIVE DESIRABILITY OF THE FORMAL OR IRREGULAR TREATMENT OF STREET ARCHITECTURE IN LARGE CITIES.

BEING THE ESSAY AWARDED THE INSTITUTE SILVER MEDAL 1901.

By ARTHUR MARYON WATSON [A.], B.A.Lond.

"A Street is a broad and maine way for horsemen and footmen to passe, and where great store of passengers walk and traveyle to and froe, especially in a citie or town."—NORDEN, *Speculum* (A.D. 1723).

THE quality of desirableness is rather an abstract matter of opinion than an absolute matter of fact. *Désir de Dieu et désir de l'homme sont deux*, and between man and man there is an ever-fluctuating value for a standard desirability. Further, when we come to a question of comparison, a man and his neighbour seldom see eye to eye alike, so that for the purpose of discussion the point of view is almost everything.

The man in the house and the man in the street approach the subject of street architecture from different and mutually exclusive standpoints, with the result that diametrically opposite conclusions are reached in each case. The man in the house, commencing with Bacon's comfortable postulate that "houses are made to live in and not to look on," builds upon this half-truth a formidable-looking argument; while the man in the street knows well enough that he for his part is accustomed to live in one house and to look on a thousand. Immediately there is disagreement. But there is yet a third man, the man who lives on the other side of the way, a good fellow who is not too exclusive; perhaps he can direct us to the truth about desirability.

This good citizen rises in the morning and draws his blind up on the prospect of the twenty houses opposite, goes through streets and squares about his avocations, and in the evening returns through streets and squares to draw his chair up to a peaceful hearth and to reflect that outside, in the great city, are houses, houses, houses, while here, inside, is the one house which he calls "home." This man will take down from its shelf his copy of Bacon's "Essay on Building," and will make a marginal note that "in large cities, houses are made partly to live in and partly to look on"; he will gather, from his own experience, that a fit street architecture must develop her highest qualities for the convenience and wellbeing of her citizens, for the comeliness and glory of her cities. *Usui civium decori urbium*, the motto of the Royal Institute, is the standard by which we shall endeavour to compare the desirabilities of the formal and the irregular treatment of street architecture in large cities.

Having therefore determined the point of view, let us proceed to ascertain what, in this assay of comparative desirability, is to be the meaning of the words "formal" and "irregular," and, seeing that buildings are somewhat cumbrous things and, when we are dealing with streets of them, awkward to delineate, let us illustrate our meaning in the first instance by symbols. Let it be granted that the sequence (a) 72, 54, 36, 18, 9, 27, 45, 63, 81, is formal,

while the group (*b*) 9, 36, 81, 72, 18, 45, 27, 54, 63, is irregular. Here, evidently, the principal difference between group (*a*) and group (*b*) is a difference of arrangement. If we examine (*b*) we shall see that each member of the group is related to every other member, each one belonging to the family of 3, and the group is therefore in that respect "formal," yet the want of arrangement of the parts makes the whole "irregular." If, on the other hand, we consider the sequence (*a*), we notice that each number, besides being related by family ties to every other number, has in addition its own individual place in the family group. This would be an example of elaborate formality. Now take a third group (*c*), 71, 54, 36, 18, 7, 27, 45, 63, 82. Here we have a sequence, a descending and ascending scale, but the intimate relation of each member to every other member is lost: three stranger numbers who belong not to the family of 3^2 have intruded, and, though the group (*c*) is still formal, yet it is less formal than group (*a*). Lastly (*d*), .99999, or . $\dot{9}$, exemplifies a very usual, not to say commonplace, kind of formality. There are no two ways about irregularity, but formality has its grades, from the dreary procession of milestones along the high road to the elaborate evolutions of the dance.

"Mystical dance, which yonder starry sphere
Of planets, and of fixed, in all her wheels
Resembles nearest, mazes intricate,
Eccentric, intervolved, yet regular
Then most, when most irregular they seem.
And in their motions harmony divine
So smoothes her charming tones, that God's own ear
Listens delighted."

Hitherto we have purposely been dealing only with symbols, but if we apply our observations to street architecture we shall perceive that it is the relation, or want of relation, of house to house which characterises the formal or irregular treatment.

Moreover, we shall recognise degrees of formality varying from the rows of undistinguishable houses planted along rigid lines, as though fashioned and marshalled by an unreasoning machine, to the more elaborate formality which, while impressing on each unit its distinctive character, will yet compel each to take its one appointed place in the greater scheme of the street. Irregularity, like that of the symbol-group (*b*), will result from the collection in one street of many houses, each perhaps with an aspect of formal cut, irrespective of the congruity of each to the whole. It would be easy to build an irregular street of a number of houses, each designed in strict accordance with the rules of some old master; and therefore, for the remainder of this essay, the words "formal" and "irregular" will not be applied to the treatment of the component part, to the architecture of the one house, but will always refer to the whole resultant treatment—to the street architecture properly so called.

To the irregular treatment the possession of an almost unchallenged mastery of street architecture is at once both an advantage and a disadvantage. For whereas irregularity can point to some undoubtedly good achievements—as, for example, Princes Street, Edinburgh, or the High Street, Oxford—and can claim consideration on the score of its real practical vitality from a practical people who are not given to regard change as a consummation devoutly to be wished; yet we, in England at any rate, see around us good, bad, and indifferent examples of the irregular treatment, and are apt to judge the whole parcel by the worst sample, while the formal treatment, never having been fairly exploited, is continually calling us to observe more closely the advantages it holds out to those pioneers who will boldly venture to the promised land. The ideal formal city is inhabited at present only in our dreams, and we awake to find ourselves in a real old irregular city, irregular, but good enough, we say, for this passing workaday world. Let us then proceed, stage by stage, to examine the respective

claims of irregularity and formality, fairly considering and comparing them at their ideal best and at their real worst.

The present irregular treatment of street architecture claims for its method a common fundamental basis with that of natural law. The need of the individual finds its own expression in each street front. Let us by all means have beauty in our street architecture, but let that beauty be the natural result of a logical elaboration of use. The *decus urbium* should be the outcome of the *usus civium*. Thus it is that Nature, the great architect, works. "For," says Coleridge, "the organic form is innate. It shapes, as it develops, itself from within, and the fulness of its development is one and the same with the perfection of its outward form. Such as the life is, such is the form. Nature, the prime, genial artist inexhaustible in diverse powers, is equally inexhaustible in forms; each exterior is the physiognomy of the being within." Possessing not only a complete appreciation of the need of the individual citizen, but also a highly developed sense of what is beautiful, the architect, with ever fertile, vitalising power, brings the utilitarian and æsthetic elements of building to a union of which is born the perfectly consistent and therefore perfectly beautiful fabric. In such a system you will have here one citizen, with his own peculiar need adequately met and beautifully expressed, and there a neighbour citizen with his own different need adequately met and beautifully expressed. "Each exterior is the physiognomy of the being within." The men are neighbours. their dwellings are side by side in a great city—two beautiful buildings, beautifully irregular. The convention which is called formality finds here no admiration, for here we recognise only the beauty of truthfulness.

But at this point the Formalists intervene with an objection which may be stated as follows. Assuming for the moment that the exterior of each house does perfectly interpret its internal economy, so that, like the organic form, "it shapes itself from within," can we be certain that the inside of the houses constitutes the "within," the true inwardness of street architecture? Are not "within" and "without" relative terms? Surely for the man in the street the outside of the street lies beyond the walls that flank the street on all sides. Outside the street is, in fact, inside the houses; and therefore, as regards street architecture, the man in the house is the "outsider" and the man in the street is the "being within." The problem for the architect is, indeed, no less than to meet the individual need of his client inside the house; but it is a great deal more, because when he builds in a city the architect numbers among his clients the "horsemen and footmen" and the "great store of passengers" who "walk and traveyle to and froe." It is this "great store of passengers" who give to the streets and to street architecture their *raison d'être*. For imagine that the street passenger, by the perfecting either of underground tubes or of aerial motors, were to become extinct. Our streets would dwindle until they became only areas for light and air, problems of street architecture would cease to interest anybody, and architects would concern themselves with tube architecture or bird's-eye architecture. The street passenger is in much the same position with regard to the street wall dividing him from the man in the house as an adjoining owner with regard to the party-wall. In the latter case the Law recognises rights of joint ownership, and in the former case street passengers might fairly claim to exercise certain rights over a moiety, at least, of the wall which flanks the street. If their claim were admitted, the overwhelming suffrage of the street folk would impose an architecture conforming truly *usui civium*. Irregularity would be confined to the insides of houses. Then would street architecture be formal; and not till then would architects be able to say of their town buildings, "Such as the life is, such is the form."

Let us now see what answer the champions of the *status quo* can make to the above argument. Irregularity altogether disclaims a mere disorderly desire to break rules. It is

only some of your arbitrary laws of proportion or of alignment, of balance or of repetition, the disregard of which has brought upon ordered adaptability to use the unjust title of "irregular." Rules of economy and convenience, which have had their influence on legislation, have also had their influence on irregularity, so that the present irregular treatment of street architecture neither is nor tends to be absolute. For example, in the matter of frontage line, the usual form of this is a straight line, because, in the first place, the private owner desires to build on his land right up to the boundary of the public thoroughfare; secondly, convenience—the convenience of the man in the street, whom irregularity is said to neglect—convenience reminds us that the straight line is the shortest way if we would go from here to there; and, thirdly, legislation steps in and prescribes exactly how near the public thoroughfare the building line may be drawn. Economy, convenience, and legislation—the same three—are at work, though not in so marked a degree, on the sky-line. The private owner desires to pile his materials high on a costly plot of ground; the inconvenience of smoky chimneys due to a towering neighbour is one of the considerations that give pause to the owner whose fancy is the house on one or two floors; and again, legislation, with a beneficent *lur fiat*, prescribes for certain widths of streets certain maximum front-wall heights beyond which the ambition, or folly, of the building owner may not soar. These, then, are instances of irregularity recognising the greatest good of the greatest number and submitting to become regular. But irregularity stops short of the injustice, of the falseness which formality uses so unshamedly.

One has seen on new buildings, or on buildings in course of erection, those notices which inform the passer-by that "alterations can be made to suit the convenience of intending tenants." Now formalism would just reverse the process, and the tenant would be asked to twist and squeeze his convenience to fit the stereotyped front-wall arrangement which has been inspired and completed without reference to the functional element in the building. The butcher, the baker, and the candlestick-maker will be constrained each to hide his butchery, his bakery, and his candlestick factory behind an indifferently formal eighteen-inch thickness of front wall; a front wall which has ceased to be a physiognomy and has become instead a mask. Wherefore the formal treatment is guilty not only of injustice to the man in the house, who is become a bondsman and not free, but also of falseness to the man in the street, who forthwith comes to regard architecture as hypocritical, and trusts only the glaring sign with its announcement that, although Mr. So-and-so inhabits behind a Palladian drop-scene of masonry, he is in fact Purveyor of this or that to the Court and Royal Family. Is architecture the mother of the arts, and does she descend to take an ignoble place behind the immature art of the poster?

Now one sees in this charge of injustice and falseness yet another attempt to make formalism appear hostile to the truthfulness which undoubtedly characterises the works of Nature. But whereas Nature is never finite, but ever takes count of mutability of use; in the philosophy of those who proclaim the naturalness of irregularity this mutability finds no place. We build in the course of two years a fabric which is designed to last for two centuries, and the architect cannot, like the "genial artist" Nature, put into his structure cells which, hidden at first, shape, develop, and come to fulfilment just when they are needed. The child of the architect's brain is born into the world either with a complete set of teeth, from "canines" to "wisdoms," or with no teeth at all and no provision for a dental system. If mere "use" is to be the natural basis of the outward form, then either "use" should remain unchanged for the life of the building, or the architect must take into account and make provision for all the sum totals of conceivable uses during a course of, say, two hundred years. What will be the good of putting up a most expressive bakery front, a front which shall have "Bakery" archi-

tecturally written all over it, if at the end of seven, fourteen, or twenty-one years your baker is going to move out and an oilman is going to move in? The record of the logical basis of your bit of street architecture will be locked up somewhere in a tin-box along with deeds and other legal documents. You must either pull your bakery down, or allow it to continue to tell untruths about the occupation of the oilman inside, and of his successors who are not bakers, for an unconscionable time.

Now the logical escape from the dilemma is this, that in the ideal irregular city the fabric should perish with its use, but it is doubtful whether the citizen is prepared to accept so fragile a return for his money. This was not the ideal of the old Greek colonists of *Agri-gentum*, "who built as though they were to live for ever and feasted as though they were to die on the morrow," and there are many men who like to think that we should have some such ideal now, in spite of the cynics who say that we have already lost the Greek spirit past all hope, and that we have found in steel a material sufficiently perishable to ensure a short life for our buildings. There is indeed a good deal to be said in favour of an ephemeral architecture for an ephemeral use; we prefer that the scenery should change as the actors leave the scene, and it is not exhilarating to find, as one not infrequently does in Italian cities to-day, the cloistered walks of a monastery trodden no longer by the patient feet of studious monks, but echoing to the regulation tramp of the Government custodian who presides over a turnstile and an umbrella stand.

It is, no doubt, true that this mutability of use will affect all street architecture whether irregular or formal, but the latter is not affected to nearly so great an extent as the former, because while irregularity bases itself on a temporary "use," formality finds its basis in a more permanent "tendency of use." For while uses are often variable, tendencies are for the most part uniform. In the abstract the measurement of "tendency" will be difficult, but, in the concrete instance, accurate observation will generally lead to a correct estimate of tendency. For example, the limits of "club-land" in London are well-defined; physicians prefer Harley Street and its environment; picture-dealers congregate on the west side of Bond Street; in Cockspur Street shipping agencies abound, and Long Acre is colonised by carriage-builders. The expression by our street architecture of tendency of use will generally lead to a formal treatment; and, provided the tendency has been rightly gauged, there is no reason why use-tendency should not endure with the buildings that are its complement.

Moreover, there is another powerful factor whose influence on architecture, if allowed free scope, would conduce to a formal treatment; this other factor is street character. For streets do undoubtedly possess character, and street architecture at present does not lend much assistance, if any, to the expression of that character. If, however, anyone should doubt the existence, apart from architecture, of street character, let him walk some afternoon from the Marble Arch in an easterly direction along Oxford Street. Let him take notice of the people he meets, of the shop-windows, of the whole "life" in the street. Let him turn southward down Bond Street; he will, as he proceeds, notice that he has made more than a mere turn to the right; he will find himself in a different "atmosphere," as we say; the sauntering crowd, the shop windows furnished with fewer and more select articles, all these are different. Again, when he turns westward into Piccadilly, and yet again, when he turns southward into St. James's Street, his environment alters; so that when at last he goes eastward along "the sweet shady side of Pall Mall" he might be in another city than that which he traversed along Oxford Street. One who is familiar with the streets of a large town will recognise a difference between the character of one side of a street and the other; tradesmen allege that there are few streets which have not their "best" side of the way, and the character of a long street varies even in the course of its length. Now, street character is largely influenced by

the "user" of the street; but street architecture has not hitherto submitted to this influence, and has remained in consequence irregular. If the architecture of St. James's Street were to take on some of the character of the "Court of St. James," and Harley Street architecture were different again, but expressive of Harley Street character, what an interesting formality would result! How is it that architects neglect to express street character in their work? Is not the answer to this question to be found in the attitude of mind which induces the designer to regard his piece of frontage between two party-walls as a unit complete in itself, instead of, what it really is, a part of the street, which street again is a part of a great city, and has its particular function in that city? In short, these artificial party-walls are allowed to slice up our streets into pieces, of widths varying from fifteen feet to fifty, and consequently a great city like London can be described, in the words of Horace Walpole, as "a gigantic mass of littleness."

But the detractors of the formal treatment have still a goodly list of objections to urge; they are not enthusiastic about the expression of street use or street character; nay, they even suggest that the formal expression of these may not only be ludicrous and vulgar, but also dull and meaningless. The following is somewhat the line of argument they bring forward to support this part of their case: St. James's Street has been mentioned as an example of a street with a character. Now at the north-west corner of that street there stands a club-house shouldering a coach-builder's shop; the group is irregular in its architectural treatment, and rightly so, because the wide expanse of plate-glass that is required for the display of the carriages is manifestly unsuitable for the windows of the club-house, which are large enough to light the rooms and allow a pleasant view of the street, but not so large as to admit of the "vulgar" reading the member's newspaper or studying his breakfast *menu*. Here there can be no give-and-take in the matter of architectural treatment without the introduction of a strong suspicion of ludicrousness or even vulgarity, as when, in the harlequinade, the clown emerges from the policeman's uniform, or when on Hampstead Heath the Bank Holiday lads and lasses exchange hats. Moreover, for downright dullness give us the undistinguished undistinguishable rows of arcaded shops such as one meets in Turin, and compare with these the picturesque irregular streets of Florence, in those parts where the formal mania is not sweeping away old markets and crooked ways and substituting great gaunt piazze. And, after all, when you have expressed your meaning in a formal manner, will not your production often square with the poetry of those rhymesters who "make the one verse for the other's sake"? Of course, your few great poets will not do so, but the smaller fry, the rank and file of poetasters, who have nothing in particular to say, will produce their "volumes of verse."

"In mossy pranked dells that the sunbeams flatter
(And Heaven it knoweth what that may mean;
Meaning, however, is no great matter)
Where woods are a-tremble with rifts atween."

We do not say that architects under the present system always produce sense, but let the public pause before pledging itself to a system which will certainly lead to whole streets of dull and valueless architectural nonsense.

But formalism has an answer to these objections. Street tendency, it is urged, shows an inclination on the part of carriage-builders to settle in one street, while club-men prefer another, and formal street architecture, by accelerating this tendency, would encourage the erection of carriage-builders' premises in Long Acre and of club-houses in St. James's Street. Perhaps the most difficult problem for the architect who would desire his street design to be formal is the frequent recurrence of the public-house at street corners; but this remarkable

isolation of a particular class of house really serves to accentuate and make more apparent the normal tendency of street use towards congruity. Moreover, it is doubtful whether in the formal city public-house architecture would be in a class by itself; for there does not appear to be any tangible reason why the architectural expression of the shop where a man drinks draught beer from its native pewter should not approximate to the architectural expression of the shop where he drinks milk from a cup or glass. There will probably be in the ideal formal city a few refreshment streets in which busy men will, during the luncheon hour, contentedly contemplate the formality of refreshment-street architecture.

As regards the analogy from literature which has been advanced to show that a great deal of sorry stuff finds its way into rhyme, and is miscalled "poetry," there is sufficient truth in Calverley's final "reflection," for words are indeed piled on words, and stones on stones, and we are invited to compare our orders, balustrades, architraves, and all the familiar stock-in-trade of the formal builder, with the "brave rhymes of an elder day," and we are further asked to believe that if we could abolish these there would be less architecture (of a sort) in our cities, and our buildings would mean a good deal more. But, on the other hand, does not the ordeal imposed on the writer by a difficult metre rather make for a well-shaped and agreeable rendering of his theme? Are not some of man's most beautiful thoughts enshrined in that form which is, perhaps, the most rigid, the most exacting in any language, the form of the sonnet? The gains of restraint to the artist have been celebrated by Wordsworth in an exquisite example—

"Nuns fret not at their convent's narrow room,
And hermits are contented with their cells,
And students with their pensive citadels;
Maids at the wheel, the weaver at his loom,
Sit blithe and happy; bees that soar for bloom
High as the highest peak of Furness fells,
Will murmur by the hour in foxglove bells:
In truth the prison, unto which we doom
Ourselves, no prison is: and hence for me
In sundry moods, 'twas pastime to be bound
Within the sonnet's scanty plot of ground;
Pleased if some souls (for such there needs must be)
Who have felt the weight of too much liberty,
Should find brief solace there, as I have found."

What architect has not experienced "the weight of too much liberty," what mastery is required to avoid spoiling the *carte blanche*? and, on the other hand, what unsuspected niceties of plan have been developed from some morose angularity of site or some uncompromising refractoriness of conditions of lighting or of respect for neighbours' rights? Instead of taking the sheet of paper, blank but for the centre lines—neatly dotted on—of the flanking party walls, the architect will hedge his design about with conditions of street use and street character, and while evolving his idea will always bear in mind the larger street and the still larger city to which this little fragment is to be complementary. The party-wall will take its proper place as a common possession, quite private, quite "between themselves," of adjoining owners, who will not glory in proclaiming their disagreements, but, as good citizens, will hide their little differences and show with their neighbours a united front to the world.

The quality of unity, which we recognise as the essential attribute of all great work, whether of poet or statesman, dramatist or painter, is never fortuitous, but is the true child of formality. If we are to have unity in our street architecture we must look for it in the formal treatment, because irregularity can only produce it by becoming formal. The conformity of each component element to a central complex idea cannot be apart from formality.

Irregularity is like the invitation "to drop in" on one's host "and take pot-luck"—often admittedly a very pleasant exercise—but, for pure enjoyment, not to be compared with the set entertainment provided by a clever hostess who never, in the selection and arrangement either of the *menu* or her guests, loses sight of the fact that the giving of a dinner is a formal, if difficult, art. There are some who go so far as to deny that the casual irregular collection of any buildings in any street can rightly be called street architecture at all, any more than an armed mob constitutes an army. But this severely exclusive view is only mentioned here to emphasise the importance that undoubtedly does attach to the quality of unity.

A cogent objection to the introduction of unity of treatment in street architecture may be found in the consequent necessity for some sort of censorship to regulate street design and compel conformity to the desired manner. It is argued that whether your censor be an individual, ruthlessly dispensing for his term of service an official code, or a board of taste with an authoritative mission from the electorate, the result of state or municipal interference with design will be nothing else than

" Art made tongue-tied by authority
And folly doctor-like controlling skill."

But from the architect's point of view it is questionable whether a censorship, however arbitrary, inelastic, and obstructive, might not be a better taskmaster than the "taste," often quite untrained, of the individual owner. For, search where you will, there is now no answer to the ultimate argument that he who pays the piper has a right to call the tune, unless it is to be found in the establishment of a censor-arbitrator who shall see that if the piper's art and the payer's right are sometimes in conflict, at least the harmony of street architecture shall never suffer.

The success of the London County Council's project for a formal treatment of the new Holborn to the Strand thoroughfare is to be desired, but the activity of the Council in this matter begins where the subject of this essay ends. The difficult problem for the Council and its advisers has been not to decide whether a formal or irregular treatment is the better, but to contrive a means to get a good formal treatment well carried out. For the purpose of this essay, the choice by a great municipal body of a formal treatment is the only relevant matter. If, on the one hand, the practicability of the scheme be proved by the issue, the advocates of formality will have a further witness for their contention; but, on the other hand, if the undertaking should unfortunately end in failure, the formalists may still argue that either the instructions to the architects or the machinery for carrying through the enterprise was at fault, and that the impracticability of the formal treatment is yet to be proved.

At this point we may revert to a desirability belonging to the irregular treatment which has been alluded to in an earlier part of this essay, namely, its undeniable practicability.

In a country where we are not ashamed to admit that things usually muddle through in the end, a policy of *laissez faire* is the popular policy. Provided the building owner does not unduly inconvenience his neighbour or endanger the public safety, he is allowed to do pretty much as he likes, and when the work is done, we make the best of it. This is a quick and easy way, and it is a way that has ruined and will ruin many a good scheme. Sir Christopher Wren, the most heroic figure among British architects, saw his plan for rebuilding the City after the Fire deliberately neglected and irrevocably spoilt, because men were in so great a hurry to get roofs over their heads that they gave themselves no time to consider the great Surveyor's scheme, though "there was," as John Evelyn wrote, "never a more glorious phoenix upon earth, if it do at last emerge out of these cinders." That which City builders failed to do in 1666, when both the occasion and the man were there to help them, City

builders are failing to do in the present year of grace, when neither the opportunity nor the directing mind is so obvious. And the consequence is that the "phoenix" that is daily rising from the ashes of a city's destruction is a kaleidoscopic collection of heterogeneous buildings arranged, for the most part, in rows which we, being above all things a practical people, are accustomed to call "street architecture." The irregular treatment is, however, alive and in possession, and there will have to be a great deal more "education of the public" before it will consent to be ousted on purely "art" grounds.

Thus it will be seen that besides the unsympathetic attitude of the man in the street, the building owner has to meet a more searching, a more far-seeing criticism from the master of architecture, "who," as Sir C. Wren says, "thinks his judges, as well those that are to live five centuries after him, as those of his own time." To provide a working compromise between the apparently conflicting interests of the one builder, his many neighbours, and the great host of citizens yet unborn: this is the mission of a fit street architecture, and this is the mission that the formal treatment claims to fulfil. That quality of good citizenship to which the Romans gave the name *urbanitas*; that attribute of Christian neighbourliness which asks only "room to deny ourselves," will find expression in an urban architecture that is formal and therefore really "civil." "Manners makyth man," but what does the manner of our street architecture as it is tell us of the ideals of the men who inhabit our towns? Because a building owner is a millionaire, he is allowed to put up a front very rich in ornament to outshine the plainly-dressed appearance of the rest of the street; ordinary civility would here suggest the formal treatment of the street front and the relegation of lavishness to the inside of the house, where it will afford pleasure to the owner without putting the poorer neighbour in the shade or spoiling the congruous aspect of the street. Furthermore, there is the degrading method which seems to prostitute architecture to the uses of advertisement. Either it is the architect himself who seeks to attract notice and clients by a noisy, conspicuous design, or it is the tradesman—and in this respect the "publican" is often a sinner—who, if he may not have a flash-light on his roof, is determined that the wayfarer shall not pass unreminded of the particular "line" which "at this establishment is unrivalled." A formal street architecture discourages selfishness and advertisement, but glories in urbanity.

Moreover, street architecture, influenced by use tendency and character tendency, and becoming formal in the process, will in its turn react as an educating, humanising power on the lives and modes of thought of the dwellers in the cities. When, at the recent Congress of Architects, the education of the public in architecture was discussed, most speakers were agreed that only the architects can, by their works, improve the public appreciation of their art. The ordinary man, to do him justice, does give architects credit for putting some meaning into their works. But in irregular streets he sees these experts busily contradicting one another; therefore he is fain to abandon interpretation. Either the consideration of architecture occupies a very remote place in the system of his mental activities, or he comes to regard architectural matters as not intended for his concern at all; and thus the seed of a positive incapacity for criticism or appreciation is sown and cultivated. In the formal city, however, street use and street character will be writ so clearly on the street buildings that he who runs will read. Architecture, more intimately connected with civil life, will become at once more interesting, and therefore more educating. The services of the popular lecturer, with his neatly labelled lantern slides, teaching "architectural styles" to amateurs, will in the formal city no longer be required. There will be no amateurs. Every man will have learnt from his surroundings that for him architectural style is a living reality. He will be quick to notice, not so much differences of "Gothic" and "Classic," of "Christian" and

"Pagan" architecture—of these he will have read something in books—but incongruities, vulgarities, and sins against "style" in architecture, these he will mark down—nay, will hunt down and expel from the city, along with street noises of every sort.

And what of us architects? Are we going to wait for the Government to give us a censor to reign over us for the repression of architectural viciousness? Rather let us unite to put our house in order for ourselves. Let our students at the Royal Academy and at the Royal Institute—in every place where we train the builders of our cities—let our students be encouraged to cultivate urbanity in street architecture, by competitions for the most congruous design for a definite site in a city, by "restorations" which shall embody the existing work of some past master and weld it into one great street conception, and by fostering as far as possible appreciation of any and every good quality in the work of others. Neither in the schools nor at public exhibitions should a design for a fragment of street architecture be countenanced unless accompanied by a sketch of the whole scheme to which the detailed front is complementary. The practising architect, with a sense of *esprit de corps* making him jealous for the good name of the brother who has been at work before him, will endeavour to carry on the idea of the original designer, or, if not, to create a better scheme embodying the existing work in the completed street. The irregular treatment is indeed practical; but can the ideal of such professional conduct as would in time make the architectural treatment of our streets a formal one—can such an ideal never be realised? Maybe much of this is mere speculation, an empty dreaming which can never lead to practical results. Nevertheless, speculation is not always in vain, and one may wake from dreams with truer inspirations for nobler efforts. With all our thoughts concentrated on the many pressing insistent problems connected with the housing of multitudes in great cities, we shall work to no less good purpose by reason of those visionary intervals wherein we allow ourselves to range far on ahead in the utmost fields of speculation.

Two lovely children run an endless race,
A sister and a brother:
That far outstripped the other;
Yet ever runs she with reverted face,
And looks and listens for the boy behind
For he, alas! is blind!
O'er rough and smooth with even step he passed,
And knows not whether he be first or last.—COLERIDGE: *Time, Real and Imaginary*

We do not know, we cannot tell, whether the ideal formal city can ever be; but a great step towards the union of the real and the ideal will have been taken when we architects are agreed as to what is our ideal in this matter of the treatment of street architecture.

In this essay we have examined the comparative desirability of the formal or irregular treatment from the wide-seeing standpoint, *Usui civium decori urbium*; we have shown that "use," developing itself along certain definite lines or tendencies, would justify a more congruous street architecture than now obtains. We have analysed the principal arguments that are commonly used on either side. One aspect of the matter yet remains, and it is this: that whereas noise and restlessness accompany irregularity, the formal treatment brings in her train peacefulness and repose.

With the best intentions, an architect is prone to seek to convey all his meaning in the one piece of street front which is given him as a medium for expression. Perhaps, like von Moltke who was often "silent in seven languages," the architect with a whole street at his disposal might allow himself at least one brilliant flash of unbroken wall space, masterful and overwhelming with the deliberate impressiveness of a great man's silence. Now, in the

irregular treatment of street architecture this awe-inspiring dumbness of the dead wall seldom asserts itself, for fear lest the unsympathetic interjection of the next-door front may put on golden silence the brand of brute dullness. The formal treatment, however, offers the architect freedom from the necessity of saying in small compass all that he means. Formality, too, exhibits in the highest degree the powerfulness of contrast. Contrast, which some mistake for a phase of irregularity, is really one of the chief attributes of unity. In that Formal City which exists, we believe, somewhere, the imagination is stimulated, the eye is led down the long vista of the narrowing street to where, on the farther side of the great piazza, the heaven-suspended dome looms delicately-shaded above a rainbow veil of sunlit fountains.

THE USE AND ABUSE OF PERSPECTIVE.

By MAURICE B. ADAMS [F.].

MR. RAFFLES DAVISON'S success as an architectural artist has been so complete that no apology on his part was needed in contributing the most interesting article on the subject of architectural perspective which appeared in the JOURNAL R.I.B.A. of the 26th of last month. No one, of late years certainly, has done more by example to advance the art of pictorial draughtsmanship among architects than Mr. Davison, and there can be no doubt that many of the foremost members of the profession owe him no small thanks for the artistic and capable manner in which he has from time to time rendered their designs for competition and exhibition purposes. The personal element of this appreciation of Mr. Davison's craftsmanship would to some extent be lacking in individuality if I omitted to mention that it has been my good fortune to meet him on very many occasions at the Royal Academy and elsewhere on press views, whereat a pleasurable interchange of critical opinions and ideas on the works exhibited has enabled me to realise how thoroughly Mr. Davison appreciates and justly estimates the designs of contemporary architects, loyalty and reserve always being conspicuous on these interviews in respect to work with which his own drawing has been associated. This capacity has enabled him invariably to display a marked discrimination in setting out and finishing his perspectives, with the result that he usually manages to present the subjects entrusted to him in the most advantageous light, gracefully moderating a feature here or emphasising a detail there, to the great gain of the composition so depicted.

Anything, therefore, which Mr. Davison has to say about the use of perspective drawing will necessarily command close attention, and particularly so among those who have had experience of a special kind in draughtsmanship themselves. For my own part I may say that the article on

perspective with which Mr. Davison has enriched the pages of the Institute JOURNAL appears to me most admirable, even if I venture to differ from some of his conclusions. I can scarcely believe that any true architect really undervalues the relative utility of perspective as an aid in design. As a matter of common knowledge, the most capable architectural designers in modern times have, with rare exceptions, been the most accomplished draughtsmen. The late William Butterfield was, perhaps, a brilliant exception, and he personally explained to me his ideas of perspective, and considered it wanting because, as he said, it emphasised too much one given point of view, whereas in looking at a building the spectator continually altered his point of sight in walking round it. Kaleidoscopic perspective remains, however, beyond the powers of the ordinary delineator, so that this objection of Butterfield's to single views can only be overcome by producing several perspectives; and that, in the ordinary way, is of course out of the question.

Mr. Davison tells us that there exists a growing feeling among architects against perspectives, and adds that the depreciatory criticism in respect to architectural drawing as an art in itself, which one frequently hears nowadays, is only a sign of the times. This may be so; but if some architects taboo perspectives, as he says they do, is this not due to the fact that such drawings more than often are so adroitly manipulated and so adjusted by the adept draughtsman that the perspectives, instead of being accurate records, become misleading, while in some cases they actually falsify both the proportions and character of the buildings they are supposed to represent? Of course, Mr. Davison would say that such a condition of affairs only establishes the misuse of the art of perspective; and no doubt there remains much truth in his argument that "things which look well enough in elevation have a trick of turning up very queerly in perspective." There is another side to the question, notwithstanding. Very few possibly have had so vast a number of architectural drawings of all kinds pass through their hands as I have during the past twenty-nine years, since I

came to London; and with this experience I think I may say that it is by no means certain that the ordinary, everyday, clever, and fetching perspective does actually tend to refine or in any material degree enhance the merit of contemporary design in the way claimed for it. The drawing, indeed, for that matter, may be correctly set up, strictly in accordance with the rules of perspective—every detail may be shown in a way devoid of chicanery; but unless the draughtsman himself has a keen sense of the proportion of things, and is able to modify and adapt the point of sight best suited to his subject, the result, all the same, is most likely to be misleading and unsatisfactory.

As a means to an end, architecturally speaking, good honest drawing cannot possibly be over-estimated; but at the same time it is well constantly to remember that perspective drawing was entirely unknown when most of the masterpieces of mediæval architecture, for example, were erected. Of course, we can no more revive mediæval methods of working than we can recall to life the men who practised them. It must be admitted that exquisite design has been executed, and no doubt is still produced, without the aid of beautiful drawings, and consequently in that sense the importance of perspective can readily be over-estimated. Wretched designs may be made to pass muster by capable draughtsmanship, and it may be acknowledged that fine designs seldom suffer at the hands of a really artistic draughtsman. However we view draughtsmanship, it is clear that to produce good buildings worthy of the name of architecture, their designer must possess the creative faculty, enabling him to evolve his conception by an intuitive sense of shape and form, or the result must be ordinary and commonplace, whether he is possessed of a facile pencil or not, and he will, by the very conditions of his art, think in perspective. His first studies, however, must assume geometrical shapes and measured sizes, augmented, as his sketches no doubt should be, by perspective notes. These latter are essentially different, however, in scope and intention from the show pictures of the specialist, such as Mr. Davison has accustomed us to. I remember calling, many years ago, on an architect friend, well known at that time for his powerfully clever pen-and-ink drawings, just as he was making a study of this kind for a church tower and spire. After exchanging greetings, I proceeded to sit upon a high-backed office stool standing in the centre of the room, when, much to my surprise, my friend excitedly jumped up, exclaiming, "For Heaven's sake, man, don't shift that stool, for I was using the back of it as my vanishing-point!" For the purpose in hand, I suppose, he found such a contrivance "near enough"; but surely that was only because he really knew what he was about. Technically correct perspective in his case was a minor con-

sideration. Apart from his architectural sense of fitness, he was quite as likely to have been wrong, and without his power of design, as it is called, a correctly projected point of sight would have been of little avail.

The corrective use of linear perspective no one can gainsay, but at most it can only serve as a test in verification of the architect's exercise of mental perspective, or to bring into position some incidental feature which otherwise might be overlooked. A model, beyond question, would, I suggest, be far more useful in this respect; and it becomes a question in "the workshop of hope" for the future, indicated by Mr. Aston Webb, A.R.A., in his speech at the last general meeting of the Institute, whether architects would not do better by discarding perspectives more, and making their designs as far as possible "in the round," and thus, by modelling their works more than heretofore, escape to some extent from the trammels of precedent, and perchance be enabled to develop a twentieth-century style. Whatever such a departure may be like, it seems more than probable that sculpture of the nobler sort must become an intrinsic element in the architecture of the future, and modelling would greatly help in the attainment of that end. At the present time I notice with regret the fashion of drawing as if anything would do by way of a perspective, provided the effect obtained is peculiar; or, on the other hand, infinite care is taken to produce a weird conventionality of delineation, chiefly distinguished by niggling Noah's Ark-like trees or shrubs and telegraph-wire skies. The last novelty in this direction which I have noticed was shown by one of the competitors this year for the Soane Medallion. He traversed his sky with thin white horizontal streaks, about a full sixteenth of an inch wide, enclosed in each case by lines, and then filled in the intervening spaces with flat laminated washes of differing grey tints like the building, the windows remaining light. Another method in vogue is to colour a perspective with washes merging one into the other, adopting a sloppy, daubish mannerism in impossible tones, with the sole idea, seemingly, of producing something unlike anything in this world or the next! This result doubtless looks striking, and obtains attention by dint of being "up to date."

It has been the fashion for some little while to speak slightly of the drawings of the past masters of the Gothic revival period, and to sneer at the somewhat hard and possibly matter-of-fact perspectives of a quarter of a century ago; but it is doubtful whether we have yet reached such a stage of perfection, either in design or drawing, that we are justified in assuming these airs and graces. The more we realise that perspectives are at best architectural diagrams, the better for good building—and that, after all, should be the aim of the architect.

SOME PRINCIPLES COMMON TO ALL BUILDING MATERIALS.

Lecture to the Students of the Northern Architectural Association, given at Newcastle-upon-Tyne on 16th January 1901.

By FRANK CAWS [F.], Vice-President N.A.A.

THE thought which I wish to carry as a continuous thread through my discourse to-night is that the behaviour of materials, and their sufferings under stress and strain, are so similar to our own that, as we closely study them, it becomes evident that these materials, though not "bone of our bone, and flesh of our flesh," share with us in those elemental principles common to all creation, and are, in a very real and no merely fanciful degree, *our fellow creatures*! So you will pardon me if I occasionally allude to the "human nature of building materials." This thought should make them less uninteresting than if we regard them as mere dead matter.

"A merciful man is merciful to his beast." But if the man be ignorant of the natural requirements of his beast, his "mercy" may be so ill-judged as to give his beast too little or too much and irregular exercise, shortening its life all ways. Anticipating my impending analogy, you may object that an architect cannot shorten the life of any piece of material in his building by giving it *too little* to do, though he may break it by demanding of it *too much*.

Without pushing the analogy too far, I will mention a case in point—a real and quite modern case, familiar enough to the architects and builders of Newcastle. I allude to the collapse of the "Eldon Arms," whereby—though luckily no one was killed or injured—£10,000 worth of building property was irretrievably wrecked. Having been professionally consulted, by one of the deeply interested parties, as to the cause of this extraordinary disaster, I studied the ruins systematically and closely, and found that four columns in the basement had to sustain the combined loads of floors and internal partitions, &c., such as were not carried by the outer walls. I found that originally these columns were called on to bear approximately equal loads. But after the building was opened for business, and after the architect had completed his work and been paid for it, some other person—not an architect, I believe—removed a partition wall, and inserted a beam on an upper floor in such a way that one of the four metal columns of the basement was compelled to bear severe and awkwardly-adjusted extra stress which the remaining three columns were not permitted to share. What was the consequence? The overloaded column broke first, and the other three followed suit immediately.

Assuming that there was a certain irreducible amount of total stress to be borne by these four columns, the overstressing of one and the under-

stressing of the others were inevitable concomitants. So it would be as true to blame the understressing of the three as the overstressing of the fourth for the disaster. It is noteworthy that the total load originally imposed on these four columns, which before the alteration they endured for many months, and which they would probably, had the alteration not been made, have continued to endure, was a *greater* total load than they had to carry after the alteration. But though the unfortunate alteration lessened the total load, it so changed its *incidence* as to give one column an unfair stress, thus precipitating the ruin not of that one only, but of the three others also, and thereby wrecked the whole structure.

If some people were invited to name the four personal pillars of our British State to-day, they would reply Salisbury, Balfour, Hicks-Beach, and Chamberlain. Whether you and I agree with them or not, we may, for argument's sake, allow their selection to pass unchallenged, and employ it to illustrate our subject still more vividly than the four broken columns of the "Eldon Arms." Now if one of these four men were to break down in administering his special department, his failure would probably render politically consequent the fall of the other three, so that the whole Government would be wrecked by the collapse of one of its main supports.

These illustrations thus far show how other members of a Government, or of a structure, may be ruined by the failure of one member; but a further truth should not herein be overlooked, viz. that if one *part* of an individual member is weak, that little local failing may bring about the ruin of the entire fabric to which it belongs.

We all know that weakness in the *head* of one of the four statesmen I have named might at the present juncture of our national affairs involve our country in misfortune or loss. And those who are acquainted with the details of the "Eldon Arms" disaster know it was due to weakness in the *heads* of the four columns. Each column cap had a square abacus, and was of neat design of a simple Norman character. Not the external design of the architect, but the internal design of the foundry foreman was at fault. These four capitals were very large, and were cast like hollow boxes, somewhat funnel-shaped. They ought to have had internal stiffening webs to carry the line of shaft straight up to the cover, as indicated by dotted lines in fig. 1. But there were no stiffening webs, and the leverage afforded to the load by the overhang of the cap enabled the load to crush the

caps as though they had been egg-shells. The upper part of each cap broke down, falling in fragments to the floor, leaving the shafts of the columns standing, with the stumps of their caps broken off at *F F*, to bear the superincumbent

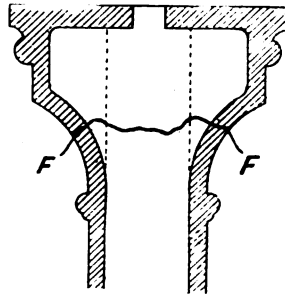


FIG. 1.

girders, which settled down upon them and rested, sustaining still the weights of the more or less disorganised floors and partitions of the superstructure. These columns, with their fractured remnants of capitals, would doubtless have continued to stand, bearing those heavy loads, till now, had not their removal been necessary to the rebuilding of the entire structure, which the disorganisation of walls and floors, &c., rendered imperative. They stood for many weeks after the accident without betraying any further weakness. Indeed, the columns, had their heads been as strong as their shafts, would have carried probably about eight times the load imposed on them before showing any weakness.

These details are a little wide of the subject of "Principles common to all building materials"; but, seeing that most of you will be repeatedly called on to design metal columns and their caps, I could not, merely for the sake of keeping my remarks strictly within the immediate scope of the subject, pass over this "Eldon Arms" disaster without warning you against allowing metal foundries to leave out the stiffening webs necessary to keep hollow caps from crushing; for one such example as that of the "Eldon Arms" should prove sufficient for us, if only we will take warning.

Small structural defects may ruin noble edifices, as "little foxes spoil the choice vines." "The strength of the chain is its weakest link." The strength of the working man may be estimated by the rate of his output, year in, year out. A man may kill himself by overpowering himself, i.e. by turning out his work at a rate which he cannot maintain. To increase his strength of the present moment, he may overdraw on his physical reserves, thereby exhausting his stock of vitality and undermining his constitution. The rate of work which costs a man his life is the measure of the breaking strength of that man.

If by employing forced labour we had killed

one thousand men, and then measured the total amount of work each man had done, and divided it by the time he took over it, we might from such data of a thousand cases arrive at the average and maximum and minimum breaking strength of a man. And we might say, "Now we have done of killing men. We will work no more to death. Henceforth we will adopt 3 as a factor of safety—that is to say, we will impose on each man only one-third the amount of work per day that would kill him."

"Yes," says someone, "that is all very well. But look what a wide range of difference there is between the maximum and minimum strength of your one thousand broken men! Which are you going to steer by—maximum, minimum, or average?" "Oh," we reply, "average, of course." But our interlocutor is not satisfied. He asks, "Why of course? Had you not better take the minimum? Remember, 'the strength of the chain is its weakest link.'"

"Oh, yes, true," we reply; "but if we are going to adopt the minimum as our rule we cannot afford to allow a factor of safety so large as 3. There is foreign competition to contend with, and our clients will not pay more than they think fit for the structures they want. However, we can perhaps meet your views if we adopt a method of proof strength."

"Proof strength," says Interlocutor, "what is that?" We explain to him that we propose before permanently engaging a man to set him a proof task, to test his working capacity and strength: just an hour's work. And he asks, "But how much work in the hour will you give him to do as a test?" We reply, "Only work requiring half the breaking strength of the average man of our thousand. If he does that job, then we will engage him, and permanently work him, not at half but at one-third the average man's breaking strength."

But Interlocutor is still dissatisfied with our explanations and proposals. He asks awkward further questions, such as the following, which we cannot answer—"How do you know that this man on whom you impose the proof task is not below the average strength? May he not by overstraining himself in doing the proof task render himself less able to work continuously at the lighter permanent task, which, but for your overstraining him by your proof test, he might have done without overtaking his powers? Is it not highly probable that the initial overstrain in such a case would escape your notice, and, indeed, that the man might himself be unaware of it till afterwards? Are not undetected overstrains often the more dangerous because their development is so insidious that when eventually discovered it is too late to repair?"

The foregoing *argumentum ad hominem* fairly exemplifies modern methods of determining the

amount of load, or of duty, which a given member of a structure will stand.

You see there are the breaking strength (say, =3), proof strength (say, = $1\frac{1}{2}$), and working strength (say, =1). These factors—3, $1\frac{1}{2}$, 1—are usually employed for *static* loads. For rolling and dynamic loads, also for compressive loads acting longitudinally through members, such as columns and struts, whose length greatly exceeds their transverse dimensions, much higher factors of safety than 3 are recognised as imperatively necessary.

These factors are somewhat empirically chosen to guard against overstress, whether tensional or compressional.

Now what is overstress or overtension?

Some of us know too well what it is in the case of a *man*. It is stress beyond strength. But overtension by no means involves immediate breakdown. It makes excessive overdrafts on the needful reserves of strength, thus causing permanent injury.

This general recognition of the nature of overtension is not precise enough, however, to serve the practical requirements of the architect.

A principle or property, common to all materials in the universe, presents itself to our notice at this stage, and demands our most earnest attention. I mean ELASTICITY. Many persons confound elasticity with *stretchability* (to coin a word), or, more properly speaking, *extensibility*. But that is a mistake which no architect should permit himself to make.

A piece of material of definite normal length and diameter under a given tension may stretch an inch, while another material of equal normal length and diameter under equal tension may stretch a yard. In popular parlance the latter would be considered much the more elastic of the two. But that is the most elastic material which, when the stretching force is discontinued, discharges the highest percentage of its stretch, and returns most nearly to its normal length. Thus, for example, if the material which stretched 1 inch discharged $\frac{3}{4}$, or nearly $98\frac{1}{2}$ per cent., of its 1 inch stretch, remaining permanently overstrained to the extent of $\frac{1}{4}$ inch, it would be more elastic than the material which stretched 1 yard, and after removal of stretching force discharged $\frac{3}{8}$, or $97\frac{1}{2}$ per cent., of its 1 yard stretch, remaining permanently overstrained to the extent of 1 inch.

An injury has been wrought on a man when his strength of mind and body has been *permanently* reduced. But if some temporary stress of mind and body produce only a temporary strain, leaving them quite as alert as before, uncrippled and undinted, that stress were a proper stress, not in excess of the man's strength, doing it no injury, but really benefiting and developing, by exercising it. In this respect

what is true of human beings is equally true of building materials.

You will not have failed to observe that the factors of safety which are adopted in ordinary structural practice are, as I have already pointed out, in terms of the breaking strength.

This, the common practice of our day, though an improvement on earlier and ruder methods, is sure to be eventually superseded by a more scientific mode of estimation: for it is the limit of *elastic strength* rather than the limit of *breaking strength* which should form the basis of our calculations.

The limit of a man's proper exercise of his strength is *not at the end of his life, but at the beginning of his death*.

Death begins where the permanent loss of elasticity begins.

We need to distinguish permanent from apparent loss of elasticity: for what seems like a permanent overstrain will sometimes disappear, and the material, after a period of complete rest, will be found to have regained its original unstretched length; or if it be a case of distortion, such as the bending of a beam due to overloading, though on removal of the load the distortion or deflection may not at once wholly disappear, it does in some cases some time later, after a period of rest and recuperation, quite disappear; so that we might almost go so far in our analogy as to speak of an ailing beam, after a long rest, becoming convalescent!

Shakespeare was probably not thinking even of oak beams, and certainly not of steel girders, when he wrote, "One touch of nature makes the whole world kin." Yet the fact remains that the steel girder or tie rod may rightly claim kinship with even the most lordly architect who treats them carelessly, with ignorant semi-contempt as beneath his notice!

What is sorely needed by architects is what cannot at present be got either for love or money, viz. a true table, not only showing in one column the breaking stress of a rod of, say, 1 inch sectional area of each kind of material used in buildings, but also showing in another column the lower limit of elasticity of that material under given conditions. That is to say, the first-named column (which is what we have in text-books already) would state for each material the point where death is finished (*i.e.* breaking point), and the second column would show the point where death begins (*i.e.* the lower limit of elasticity).

Much information regarding the elastic limits of steel and iron has been already gathered by engineers, which architects for the most part have not been keen enough to avail themselves of. Our new technical colleges, which are rapidly rising in number and importance, and most of which are being equipped in their physical laboratories with splendid testing-machines, will become more and

more centres of light and leading on this subject of the elastic strength of materials, and young architects should take care to keep themselves up to date with these very important developments of structural science.

A professional trainer of athletes will, I believe, tell you that men in training do not all show signs of exhaustion long before they break down. Some give way quite suddenly. Men are very differently constituted from one another in that respect. And so it is true of materials, that some reach their lower limit of elastic strength at a point much nearer to breaking point than others do. And not only do different kinds of material show such differences, but even the same kinds of material under varying circumstances show considerable variations as to the ratio of their elastic to their breaking strength.

Not only in regard to adopting breaking stress as the basis for strength calculations is existing practice open to question, but also in regard to the common method of calculating strength as though it were simply proportional to sectional area.

An architect will say, for example, "Here is a round steel bar of 1 inch sectional area which will break at 30 tons pull, and here is another round steel bar of same quality, but of 4 inches sectional area, which will break with a pull of $4 \times 30 = 120$ tons, of course." But he is mistaken. The 4 inch bar would *not* prove equal to a breaking tension of 120 tons. Following the same theory (that strength varies as sectional area), the architect may further say, "Here is this 1 inch bar, and here is a wire of $\frac{1}{10}$ inch sectional area, both of the same steel. As the bar breaks at 30 tons pull, the wire will break at $\frac{1}{10}$ ton pull." But, again, the theory leads him astray: for in point of fact the wire will stand $\frac{1}{10}$ ton pull at least.

It is easy to believe that the process of wire-drawing may have a strengthening effect on the material by consolidating it more densely. But that this effect alone would account for 100 per cent. gain of strength is unbelievable. The truth is, there is a principle at work which as yet the text-books have failed to recognise—the exceedingly potent principle of TRANSVERSE LEVERAGE.

The tendency of tension acting lengthwise through a bar is to make its length *infinite*, and its sectional area *zero*.

Conversely, compression tends to make the bar's sectional area *infinite* and its length *zero*.

Tension can produce no elongation except by reducing transverse dimensions; and compression can produce no shortening of length except by extending transverse dimensions.

The more closely the material of the bar is gathered about the longitudinal axis (as in a wire, for example), the less will it stretch under tension. On the other hand, the further the material is grouped from and about its longitudinal axis the

less will it shorten under compression (as in a hollow metal column, for example). Therefore a thin tube is unsuitable to withstand tension, as a solid tie-rod of equal weight to that of the tube has a much higher tensional resistance. Conversely, likewise, a solid pillar of metal is unsuitable to sustain compression endwise, as a hollow pillar of the same weight of metal offers a much higher compressional resistance.

When a bar or wire is elongating under tension its outer "skins," so to speak, stretch faster than its inner core. Let us, for convenience of illustration, conceive of a wire as having three "skins" and one core. The homogeneousness of the real wire will not upset the reasoning which takes these "skins" as a basis merely for showing how the transverse leverage operates on the substance of the wire at various distances from the core. On

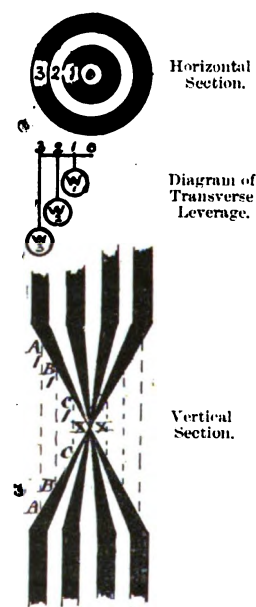


FIG. 2.

this sectional diagram I have sketched the core as *white*, the first "skin" *black*, the second "skin" *white*, and the third "skin" *black*. Let the upper end of this wire be attached to a stationary support, and the lower end be loaded with a weight exerting equal intensity of downward pull on each unit of the wire's sectional area. Let this weight be sufficient to break the wire, the point of final rupture occurring at the level $\times \dots \times$. Now please note how the transverse leverage affects the forces which break the wire after stretching it to the rupture point.

Let W_1 , W_2 , and W_3 represent the equal units of breaking-weight pulling respectively on "skins" 1, 2, and 3. The transverse leverage with which these units of weight act reckons from the axis of the core to the middle of each "skin"

respectively. Thus W_3 and W_2 respectively have three times and twice the leverage possessed by W_1 . Therefore "skin" 3 is stretched with three times the force, and "skin" 2 is stretched with twice the force that is stretching "skin" 1. The extent of each "skin's" stretch is governed by the amount of force causing it; so, as the sketch shows, No. 3, which normally extended directly from A to A_1 , is stretched so as to extend from A to point, and onward to A_1 ; while No. 2, which normally extended directly from B to B_1 , is stretched so as to extend from B to point, and onwards to B_1 ; and likewise No. 1, which normally extended from C to C_1 direct, is so stretched as to extend from C to point, and onwards to C_1 .

The phenomenon of reversed cones begins to become permanently evident after the lower limit of elasticity is passed.

If the density and strength of wire were uniform throughout the sectional area, the fracture would occur at the point of two cones meeting, as the diagram [fig. 2] shows.

But, as the strength in a wire is never uniform throughout its sectional area, the conoidal phenomena, of stretching beyond elastic limit and breaking, do not, in point of fact, present *straight*, but more or less *curved*, outlines. The analysis of their curvature is very interesting, as showing the combined influence of varying leverage and varying tenacity; but those and other fascinating details involved cannot now be gone into, as time forbids.

There is still one other observation to add in this connection, viz. the fact that, when the breaking weight suspended at the lower end of the wire is free to do so, it revolves as it descends, corkscrew fashion, and thus *unwinds*, as it were, the strength of the wire, while reducing it slowly to the point of fracture; and if you closely observe sagging beams you may detect a disposition on their part to revolve transversely about their neutral axis in the act of bending; but of course the resistance of the wall-bearings absolutely forbids twisting of the beam at its bearings, and it is therefore only at mid-span (where that resistance is less absolute) that a keen observer can detect the tendency of the beam flanges to twist transversely out of level.

A very interesting, though somewhat singular, old gentleman once stopped me abruptly in Fawcett Street, Sunderland, saying in his own oddly sententious way, "Mr. Caws, tell me this, sir. I load a wire of one-quarter inch diameter with a weight which it cannot sustain at a stationary level; so this weight stretches and stretches the wire, all the time drawing it thinner and thinner, till the wire becomes only one-eighth of an inch in diameter, and then the weight comes to rest in mid air. Now, sir, tell me; how does it come about that the eighth-inch diameter wire holds stationarily suspended a weight which

the quarter-inch diameter wire could not likewise hold?"

The answer to the old gentleman's poser is that when the wire diameter began to permanently diminish from the quarter-inch it was at its lower limit of elasticity, and all the time it continued diminishing towards its one-eighth inch diameter it was stretching at the expense of its reserve of elastic strength. And when it reached the eighth-inch diameter it reached the upper limit of its elasticity, and would not have stopped contracting its diameter at that stage had not the act of wire-drawing somewhat consolidated its core. But even with this consolidation, at the eighth-inch diameter it was nearer the point of rupture than at the quarter-inch diameter.

This phenomenon is not without its close parallel in human life, as many an overworked architect, by sudden death in the midst of his heaviest labours, has afforded melancholy example.

The man who is working beyond his elastic limit and at high tension, though at first very conscious of the strain, sometimes gets injured, to a certain degree, and perhaps flatters himself that he is none the worse for his extraordinary efforts. But all the same he is nearer the breaking point; and if he is wise he will, at the earliest possible moment, get out of the *reversed cones* state, and reapproach the normal as nearly as his already overstrained condition will allow.

I must now bring these observations to a close, though there is really no end to the analogy existing between the nature of the architect himself and that of the materials which he employs.

I hope I have made plain that we ought to work by the elastic strength (when we know it) rather than by the breaking strength; and that we ought not blindly to calculate that the strength is simply proportional to sectional area, but bear in mind the effect of transverse leverage.

Before I close this lecture there is just one other point I desire to bring to your notice—a point affecting the question of *endurance*. To an architect Endurance is a paramount subject; for if there is one respect in which the products of his art emphatically excel those of all other arts it is in their attribute of permanence. Now I do not propose to trouble you with those very necessary precautions which every intelligent architect takes to protect his structures from the ravages of climatic changes, and from rot and decay due to damp, ill-ventilation, and a great number and variety of causes which there is no room in this lecture to even specify, much less to dwell upon. But I would point out, as plainly and briefly as I can, how the *mode* rather than the *amount* of work affects the endurance of materials subject to variations of stress which induce vibration.

All engineers now recognise one particular in which structural materials are peculiarly like human beings—viz. in their liability to *fatigue*.

Z

Fatigue is most characteristic of structures subject to recurring and more or less irregular shocks and vibrations—such, for example, as railway bars and railway bridges. It may be thought on that account to lie rather outside the beat of an architect. But it is not possible in these days for an architect to succeed, even if so disposed, in shutting out from his mind half the facts, properties, and principles of his structural work. Lord Kelvin, a few years ago, in addressing an important audience, urged that all young architects should study, not only statics, but also dynamics. Surely Lord Kelvin was right; for do not our buildings, as well as our railways, vibrate—and especially those buildings which adjoin railways, or stand in the near neighbourhood of steam hammers and the like, to say nothing of those which surmount or adjoin the “Twopenny Tube” and other tunnels?

Moreover, our buildings are subject to the shocks of weights falling on or rolling, more or less irregularly, over their floors, and, still worse, to the heavy buffetings of tempests, which set up very severe dynamic stresses; so that we should indeed be foolish if we were to turn a deaf ear to dynamic science and insist that we have no occasion or call for it.

Sometimes a structure which has stood with apparent safety for a considerable period suddenly collapses, and a clear reason cannot always be found.

The Dee Bridge, of cast iron, was designed by Robert Stephenson, the most accomplished railway engineer of his day. After sustaining the traffic some considerable time, that bridge disastrously collapsed when a train was crossing it; and the loss of life, as well as of property, which ensued led to a Board of Trade inquiry of a most stringent character. Stephenson produced his plans, and showed that his calculations for the scantlings of the main girders, which broke down, afforded, according to the known breaking strength of the material, a considerable factor of safety; and the only rational cause he could suggest for the disaster was that the train must have got off the line. Yet I believe no positive evidence was forthcoming that the train jumped the rails. It was Stephenson's suggestion or surmise—that was all; and no one ever certainly knew the cause of that disaster, which remains, like many another structural collapse, a mystery.

I now wish to demonstrate how such mysteries may—in some cases at least—be reasonably explained.

One very ordinary and commonly recurring accident, with which many people are familiar, is the breaking of some spring of a gig or dog-cart. Almost invariably when this happens the broken ends of the spring are examined, and the metal is found to be crystallised at the fracture. Then very frequently the suggestion is most mis-

takenly entertained that some flaw in the spring had been originally present at the point of fracture, and that the crystallisation was a proof of such flaw. Yet really and truly in most such cases there was not an original flaw, and the crystallisation was caused by no such flaw, but by *the natural law of elasticity in relation to the vibrational periods of that spring.*

As you are all well aware, every pendulum according to its length has a natural period of vibration: and likewise every body in Nature capable of contraction and extension under stress has a natural period of vibration.

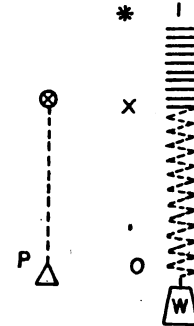


FIG. 3.

Here is a helical steel spring, made by Salter of West Bromwich. When it is lying down horizontally on the table, so that it has not even its own weight to carry, its normal length is * X: but when suspended as you now see, loaded by W and also by its own weight, its length is * O. There it hangs motionless. We measure its static stretch, X O, and make a pendulum P of equal length suspended from X.

I place my hand under the W and gently raise it so as to relieve the spring of some of its tension. I now withdraw from beneath W the support of my hand, and, as you see, the W, with the spring, vibrates vertically with a proper rhythmic motion. Now I set this pendulum P gently beating, and I ask you to observe the fact that the pendulum and the spring are beating at equal periods; because the length of the pendulum equals the static stretch of the spring.

Here is subject-matter for many lectures. But I must not dwell on it further than to let this simple experiment show the vital connection existing between vibrational period due to the elasticity of the material and the endurance of that material under stress.

I have had this spring many years. I value it highly. It has served me in many important experiments. I am well acquainted with its elastic strength. I do not know its breaking strength. I can put 16 lbs. on it without overstraining it. But 16 lbs. is its lower elastic limit. In all my dealings with this spring I am very careful never to load it quite up to that limit. In fact, regarding

this particular spring, possessing definite knowledge as I do of its elastic lower limit, I deal with the spring as I have urged upon you to-night the architect should deal with the materials in his structures, if only he could get to know what their lower elastic limit is in each case.

Well, now, say I put on my spring $10\frac{2}{3}$ lbs., *i.e.* two-thirds the 16 lbs. of proper elastic strength. Surely I am safe in doing that? Am I safe? Is it possible the spring can suffer when only loaded to that extent? Yes, it is possible. Nay, if there were only $5\frac{1}{3}$ lbs. load, that spring could be overstrained and spoilt: *if* its natural period of vibration were forced to give way to a quicker period.

We have already seen how the natural period is governed by the measure of static stretch, so that the period, of course, is varied by variations of load, a light load involving a shorter period than a heavier load.

I do not say that if on one or two occasions only I forced the spring under a light load to oscillate faster than its nature prompted, I should perceptibly degrade the elastic strength of the spring. But if I continued the forcing of the pace (as it is continued in the case of many a dog-cart spring and many a railway viaduct) disintegration and crystallisation would gradually accrue, till in course of time the spring would be found to have sustained a permanent loss of its elastic strength, refusing, when laid flat on the table and relieved of all stress, to return to its normal shortness *X, and plainly revealing a permanent elongation, which proves irrecoverable loss of elasticity to that extent. If, ignorant of this danger, and imagining the spring was all right because loaded far short of its elastic lower limit, I continued forcing the pace of vibration, the mischief would accumulate, fatigue would develop, and one day the spring would surprise me, like a dog-cart spring or a Dee Bridge, or like the collapse of a young man's constitution ruined by repeated excesses, snapping without warning.

Do not for one moment allow yourselves to think that these things may be true of my steel

spring, but are not necessarily true of vibrating buildings and their parts and members. To these general principles to which I have pointed all materials and all Nature are pledged by the eternal constitution of dynamic law and order, and no exceptions can be made. Even the ocean waves in their wildest ragings obey this law of periodic vibration; and if the hurricane *will* force their pace beyond what is natural, it can only succeed in tearing the water to pieces, destroying its cohesion, and lashing the wave crests into foam, which is equivalent to the crystallisation of the cart spring accompanying its fracture.

In attempting thus in one lecture to invite your attention to some principles common to all building materials, I have feared to hurry your minds beyond their proper natural rate of reception of new ideas, and have therefore abstained from cramming in a mass of details which might have distracted your attention from the main issues, and thus served only to tear, as it were, the homogeneity of our subject to shreds and tatters.

I have sought to point out a direction in which there is room for such an advance of constructive science as architects should be not among the last of Sadducees to grudgingly recognise, but among the first of Pioneers to explore, open up, and bring to the knowledge of mankind.

[Several of the students put questions to the lecturer which showed how keenly they had followed every point of the subject: and in supporting the vote of thanks, which was warmly accorded, Mr. A. B. Plummer [*F.*] spoke of the necessity of providing in structures a generous surplus of strength, to meet such unforeseen stresses as thoughtless contractors sometimes put temporarily upon unfinished buildings; as, for instance, a case in his own experience, where a heavy crane had been placed upon light joists and walls in which the mortar was not hard-set; so that, if he had not himself discovered the thing in time, this unfair and unforeseen temporary stress would have resulted in bulging the walls, and doing irremediable mischief.]



9, CONDUIT STREET, LONDON, W., 9th Feb. 1901.

CHRONICLE.

Death of Her late Majesty Queen Victoria.

A wreath of laurel, arum lilies, and orchids was sent to Windsor, with the following inscription in silver on black ribbons:—"From the Royal Institute of British Architects. In Grateful and Loyal Memory of Her late Most Gracious Majesty Queen Victoria, Patron of the Royal Institute."

The following telegram from the Société Centrale des Architectes français, Paris, came too late for publication in the last issue of the JOURNAL:—"To W. Emerson, 9, Conduit Street, Hanover Square, London, W.—Les membres de la Société Centrale des Architectes français réunis en assemblée générale adressent à l'Institut Royal des Architectes britanniques l'expression de leur profonde sympathie à l'occasion du deuil national causé par la mort de sa très gracieuse Majesté la Reine Victoria, sa souveraine bien aimée, patronne de l'Institut.—Le Président C. Moyaux."

Many similar expressions of sympathy have been received from Corresponding Members abroad.

Address of Condolence to His Majesty the King.

A notice was issued to London members and to the Presidents of Allied Societies announcing that at the General Meeting on the 25th February the President would move from the Chair an Address of Condolence to His Majesty on the death of her late lamented Majesty Queen Victoria. The Council, however, at their Meeting on the 4th inst., considering that so long a delay in presenting the Address was inadvisable, have determined to forward it to the Secretary of State of the Home Department as soon as possible. The Address presented by the President and Council "on behalf of the Members of the Royal Institute of British Architects and of the Societies both in the British Islands and the Colonies in alliance therewith," will be read at the General Meeting on the 18th inst.

The R.I.B.A. Prize Competitions.

The Annual Exhibition of Designs and Drawings submitted for the Prizes and Studentships

in the gift of the Royal Institute was held at the Gallery of the Alpine Club, Savile Row, from Tuesday the 15th to Saturday the 26th ult. The number of designs and drawings sent in was considerably in excess of any previous year, hanging space having to be found for over 430 strainers. In the Institute Meeting-room were shown the works done during their respective tours by Mr. John Stewart (*Owen Jones Student* 1899), Mr. James McLachlan (*Pugin Student* 1900), and Mr. Percy Erskine Nobbs (*Tite Prize-man* 1900). The Council's Deed of Award is printed in the last number of the JOURNAL, p. 129.

Prize Drawings for Exhibition at Allied Centres.

The following selection from the Prize Drawings and from Testimonies of Study submitted by candidates successful in last year's Examinations will be sent for exhibition at the Allied Societies throughout the United Kingdom:—

The Royal Institute Silver Medal (Measured Drawings).—Kirby Hall, Northants (2 strainers), by Mr. Lawrence L. Bright (under motto "Stafford Knot"), awarded the Medal and Ten Guineas.—St. John's Church, Westminster (1 strainer), by Mr. A. Wyatt Papworth (under motto "Archer," and Burghley House, near Stamford (1 strainer), by Mr. H. F. Keighley (device, "Cannon"), awarded Medals of Merit and Five Guineas.

The Soane Medallion.—Designs for a Club House—2 strainers by Mr. M. J. Dawson (under motto "Ars"), 2 strainers by Mr. H. M. Cautley (under motto "Hiawatha"), and 2 strainers by Mr. J. B. Fulton (under motto "Ionic"), awarded prizes of Thirty Guineas each.

The Owen-Jones Studentship.—Drawings by Mr. Hervey Rutherford (2 strainers), awarded the Certificate and £100. Drawings by Mr. Percy E. Nobbs (1 strainer) and Mr. Ramsay Traquair (1 strainer), awarded Medals of Merit. Drawings by Mr. E. Bennett (1 strainer), awarded Certificate of Honourable Mention.

The Pugin Studentship.—Drawings by Mr. Henry W. Cotman (2 strainers), awarded the Medal and £40. Drawings by Mr. J. Forbes Smith (1 strainer), awarded Medal of Merit. Drawings by Mr. A. J. Pitcher (1 strainer), awarded Certificate of Honourable Mention.

The Tite Prize.—Designs for an Entrance Gateway to a Public Park—2 strainers by Mr. W. Fairbairn (under motto "Corona"), awarded the Certificate and £30. 1 strainer by Mr. Ralph Knott (under motto "St. George"), awarded Prize of Ten Guineas. 1 strainer by Mr. W. A. Mellon (under motto "Marble Arch"), awarded Certificate of Honourable Mention.

The Grissell Medal.—Design for a Timber Footbridge (2 strainers), by Mr. Edwin Forbes (under motto "Pons Asinorum"), awarded the Medal and Ten Guineas.

Testimonies of Study (9 sheets).—Drawings

by Messrs. A. J. Hope and C. T. Palmer (*Intermediate Examination*).

**Norwich Union Life Insurance Society : Limited
Competition for Proposed New Offices.**

A correspondence has taken place between the Council of the Institute, Messrs. Boardman & Son (*Fellows*), of Norwich, and the President and Secretary of the Norwich Union Life Office, with regard to the conditions of the above competition.

The conditions were in every way unsatisfactory, inasmuch as no premiums were offered, no guarantee given that any design would be accepted, no provision made for compensating competitors if the buildings were not erected, and no independent architect of standing appointed assessor. The assessors were a firm of surveyors, the "regular professional advisers of the Board in such matters."

Messrs. Boardman & Son very properly declined an invitation to compete, on the ground that the conditions were not in accordance with the principles laid down by the Royal Institute in the "Suggestions."

In response to the Council's representations, we regret to say that the Norwich Union Life Insurance Society neither admitted the right of the Royal Institute to address them on behalf of the Profession with regard to their competition, nor could be brought to see any reason for modifying their amazing conditions.

Glasgow Royal Infirmary Competition.

In the matter of the above competition, Mr. C. J. MacLean, Secretary of the Glasgow Institute of Architects, by instruction of his Council, forwards the Institute a copy of a letter addressed to the Chairman and Managers of the Glasgow Royal Infirmary in the following terms :

115 St. Vincent Street, Glasgow, 21st January 1901.

GENTLEMEN,—Recognising it to be your earnest desire that the Infirmary, when reconstructed, should conform to the most modern standards of design in this class of building, and that the subscribers and the general public have a right to expect this, we, the Glasgow Institute of Architects, as a body of technical experts in such matters, feel it to be our duty to state that, in our opinion, this result will not be achieved if the reconstruction is proceeded with according to the plans selected by your sub-committee in the recent competition.

We attribute this failure not to any lack of zeal on the part of your committee, or of ability on the part of the competing architects, but mainly to the manner in which the competition was initiated and carried through, and that in the following respects among others :—

I. That along with the printed conditions provided for the competition there were issued two

sets of sketch plans as indicative of alternative arrangements which the sub-committee recommended, and which were stated in the accompanying report to be drawn by or under the direction of two members of the sub-committee respectively.

II. That a Jubilee Block to be situated on a particular part of the site was insisted upon as an integral part of the scheme.

The results of these elements in the conditions were :—

(a) That the competitors and the Assessor were hampered in the exercise of their individual judgment as to the main points of importance in such a building, viz. :—the distribution of the various buildings with respect to each other for convenience of working, and of all for the freest access of sun and air.

(b) That the competitors were placed in the invidious position that, in the event of the schemes recommended by the Committee not proving themselves to be in accord with their judgment and experience, they were bound, in departing from them, to meet with disfavour from those influential members of the Committee who would enter upon the examination of all the plans with minds necessarily biased in favour of those which they themselves had put forward, while reserving their position as judges.

(c) That as the result, the proposal that plan E be accepted, which became the finding of the meeting, was moved by the gentleman who was actually the author of the scheme which was adopted and worked out in detail by this competitor.

III. That neither of the sketch plans issued are in accord with the present-day principles of hospital design, as might indeed be expected, seeing that their authors have not enjoyed the training which would qualify them as surgical, medical, or architectural experts ; that, in fact, the plans are in many vital particulars inadequate and out-of-date, and that these faults are naturally displayed equally in the selected design, which is but an elaboration of one of them. A corroboration of this assertion with regard to the radical faultiness of the plans in question is furnished by the fact that six out of the ten competing architects found it necessary, in spite of risk of possible consequences already alluded to, to entirely throw over the schemes furnished to them, and that among this number are found all the four architects from outside of Glasgow (two from London and two from Edinburgh), who were presumably invited specially on account of their knowledge of hospital design.

Such being the opinion of the Institute after a very mature and careful consideration of the

whole subject, we would most earnestly urge the managers, before committing themselves and the public to the erection of any portion of the building, as designed, to have the plans submitted to one or more independent hospital authorities of recognised and outstanding position, for consideration and report.

Apart from the all-important question of the erection with the public funds of an entirely adequate and modern hospital, we, the Institute of Architects, feel it necessary to lodge a protest against the setting aside by the sub-committee, without any reason given, of the award of the professional Assessor, Dr. Rowand Anderson—the more so that a simple majority of one was considered sufficient to overturn his judgment—as liable to prejudice the success, alike for promoters and architects, of future competitions in Glasgow. And we have further to state that the erection of a Jubilee Block, such as is proposed, seven stories high, and in the position selected, will, if proceeded with, dwarf and irretrievably injure for all time the external appearance of the Cathedral. The foregoing statements represent the unanimous finding of the Glasgow Institute of Architects, at a meeting specially called to consider a report of the Council on the question, and as the matter is not only one of the greatest public importance, but of extreme urgency, owing to the proposal of your sub-committee to proceed at once with the erection of the northern block, it has been communicated to the public press at the same time as it is submitted, with our earnest prayer for its consideration, to yourselves.

In name and on behalf of the Glasgow Institute of Architects,

C. J. MACLEAN, *Secretary*.

The Administration of the Public Health Acts.

The following letter has been addressed to the Town Clerk of the City of London, the Clerk of the London County Council, and the Town Clerks of the new Metropolitan Boroughs:—

29th January 1901.

SIR,—The Council of the Royal Institute of British Architects having had their attention directed to the administration of the various Acts of Parliament in relation to the construction, reconstruction, amendment, and repairs of drains and sanitary appliances, and the structural removal of nuisances in connection therewith, beg leave to put forward for your consideration the following modifications which it would be desirable to have made in the administration of these various Acts:—

- (1) That the detection only of nuisances arising from sanitary apparatus or drains shall remain in the department of the Medical Officer to the authority.
- (2) That matters relating to the construction,

reconstruction, amendment, and repairs of drains and sanitary appliances, and the structural removal of nuisances in connection therewith, be placed in the department of the Surveyor to the authority.

The Council of the Royal Institute would most respectfully urge that such measures be taken as are necessary to give effect to these suggested modifications, which can be effected without recourse to legislation, as the Public Health Act places the administrative power with the local authority, and not with any officer of the authority; and the Council thinks that the creation of the Metropolitan Borough Councils presents a favourable opportunity for carrying out the above suggestions.—I am, Sir, your obedient servant,

(Signed) W. J. LOCKE, *Secretary*.

Registration of Plumbers.

On the 23rd ult. a deputation of members of the Parliamentary Committee of the Irish Trades Congress waited upon the Right Honourable George Wyndham, Chief Secretary for Ireland, in Dublin, to urge his support of the aims of the Congress, including the Registration of Plumbers under statutory powers. In the course of a sympathetic reply, Mr. Wyndham expressed his sense of the importance of plumbers' work, and his opinion that a number of deaths and a great deal of disease were attributable to defective sanitation and to bad work by incompetent plumbers.

Carpenters' Hall Lectures, 1901.

The annual lectures on matters connected with building delivered under the auspices of the Worshipful Company of Carpenters have been arranged this year as follows:—

February 21.—Mr. H. Heathcote Statham [F.], on "Architecture at the Paris Exhibition."

February 28.—Mr. H. C. Richards, K.C., M.P., on "Old London."

March 7.—Mr. John Slater, B.A. Lond. [F.], on "Celebrated Ancient Buildings."

March 14.—Mr. W. E. Riley [F.], on "Dwellings for the Working Classes."

March 21.—Prof. T. Roger Smith [F.], on "Westminster Abbey."

The lectures will be illustrated by lantern photographs. Admission is free, by ticket to be obtained from the Clerk to the Company, Carpenters' Hall, London Wall.

Obituary.—We regret to announce the death, on the 31st ult., of Mr. John Murray Robertson, of Dundee, *Fellow*, elected 1888.

REVIEWS.

CHARTRES AND ROUEN.

"*Bell's Handbooks to Continental Churches.*" 80. Lond. 1900. Price 2s. each. [Messrs. George Bell & Sons, Covent Garden, London, W.C.]

The City of Chartres: its Cathedral and Churches. By H. J. L. J. Massé, M.A.

The Churches of Rouen. By Rev. Thomas Perkins.

The success of the volumes of the "English Cathedral" series, nearly all of which have reached a second edition, has emboldened Messrs. Bell to deal with the French cathedrals in a parallel series. M. Massé has gained experience in his volumes on Gloucester and Tewkesbury, and his description of Chartres is careful and on the whole accurate. Visitors to Chartres, however, will do better to purchase the little "Guide Chartrain," which is on sale in the cathedral, and which has much facilitated M. Massé's task. The French guide is much fuller and much more definite and exact—e.g. it gives two whole pages to a table of the dimensions of the cathedral; M. Massé gives but one. The difference of grip is well seen in the account of the early work in the crypt. M. Massé says loosely "there are still the evidences of the fourth-century Gallo-Roman work." The French guide has "Le caveau est contigu à une muraille, dont le petit appareil et les bandes horizontales de briques parfaitement conservées accusent le iv^e siècle." Nor does the author inspire confidence when he writes: "Five massive piers on either side of the nave support the thrust of the vaulting of the roof, which is borne by the flying buttresses." Again, he says that "the chief architectural features in the chapels under the western towers are the capitals of the piers." He seems not to know that the vaults of these towers are placed by the French archæologists among the very earliest in France, ranking with those in a similar position at Lisieux, Marseilles, Moissac, and St. Gaudens. The width of the nave is given on page 120 as 45½ feet; on page 59, more correctly, as 59½ feet—the widest in France with aisles. The relative lowness of the vault, and the excessive massiveness of walls, piers, buttresses, and flying buttresses, might well have been correlated with this excessive width of nave, which is itself conditioned by the dimensions of the ancient crypt whose lines it follows. There are three plans and numerous photographs, the latter not very well reproduced.

The volume on Rouen has been entrusted to the Rev. Thos. Perkins, who has already dealt with Wimborne and Christchurch, and who has written a Handbook to Gothic Architecture for the benefit of photographers. As was to be expected from Mr. Perkins's reputation as a photographer, the illustrations are far above the average. Where so many are excellent, it is difficult to particularise;

but those of the Portail des Marmosets, the flying buttresses of the choir, and the glazed triforium of St. Ouen are especially admirable. There are plans of the cathedral and of St. Ouen; it is regrettable that the vaulting is not shown as it is in the Chartres plan. Nor is any scale attached to the Chartres and Rouen plans. The plan of Rouen Cathedral is strangely English in look: it takes us off straight away to Norwich, Bury, and Ely. Like Bury, it has a western transept, with flanking towers; like Ely, a double-aisled transept, but with eastern apses as well. Like Norwich, it has an apsidal choir, ambulatory, and radiating chapels. Mr. Perkins has done his work exceedingly well, and there is a freshness and independence about his criticisms of design which, whether we agree with him or not, make the book eminently readable; it is by no means a dull, dry-as-dust compilation. His remarks on the excessive verticality of the St. Ouen interior are excellent, and his defence of the iron spire is as sensible as it is amusing:

Much has been said, and justly said, against this addition to the central tower, but seen from a distance it seems to pull together the composition of the pile; and as architectural purists are always finding fault with architects for making slavish copies of ancient work, and bidding them to put up frankly modern work in any additions that they make, there are some who will not feel inclined to join to the full in the chorus of abuse which has been lavished on Alavoine's work. The nineteenth century may be well regarded as an iron age. The iron spire of Rouen, therefore, marks an epoch; it is characteristic of the time of its erection, and cannot possibly be mistaken for sixteenth-century work.

As in the Chartres volume, the other churches of the town are treated at some length, especially St. Maclou.

FRANCIS BOND.

RENAISSANCE ARCHITECTURE IN ENGLAND.

A Short History of Renaissance Architecture in England, 1500-1800. By Reginald Blomfield, M.A. Oxon., Architect, Author of "*The Formal Garden in England*," &c. With drawings by the Author, and other Illustrations. Price 7s. 6d. [Messrs. George Bell & Sons, York Street, Covent Garden.]

Mr. Blomfield's abridgment of his *History of Renaissance Architecture in England* contains practically the same amount of information as his larger book, put in much the same attractive manner. The history is in every way complete, typical examples being retained both in illustration and letterpress, the abridgment consisting mainly in the abbreviation of sentences, rather than in the omission of facts, and a plate of Palladio's orders is added on account of the important part they played in English Architecture subsequent to the time that Inigo Jones studied them in Italy.

Students of the style, for whom this volume

has been prepared, have now a concise history, tracing its course from the earliest periods when the Renaissance here was exemplified in the labours of a small number of foreign workmen, and then in the tentative efforts of the Early English builder-architects—periods all the more interesting because little known or understood—on through the times of Inigo Jones and Wren, dealing then with their immediate successors and the following school of amateurs, to the time of the Dances and the brothers Adam. The student who has assimilated all that is set out here under the above divisions, assisted by chapters on house-planning and the various handicrafts, must have a good knowledge of the gradual development of the style, its period of greatness, decline and fall.

The illustrations stand the reduction well, some even being improved, the values of the darker parts telling with more effect. At a time like the present, when the English Renaissance is so much studied, this book will be very valuable to the student as a ground on which to base his own observations, as well as any detailed information obtainable on isolated subjects.

H. TANNER, jun.

LEGAL.

London Building Act: "Public Building."

In *Moses v. Marsland*, heard on January 17th by Mr. Justice Bruce and Mr. Justice Phillimore, a question was raised as to the meaning of the words "public building" in section 5, subsection 27, and sections 68 and 79 of the London Building Act, 1894. The question arose on a special case stated by a metropolitan police magistrate to review his ruling on an appeal against the objections of a district surveyor under section 150 of the Act.* The Metropolitan Asylums District managers have, under a Local Government Board order of April 2nd, 1897, the care of children who, from defect of intellect or physical infirmity, cannot be trained in ordinary schools. The managers framed a scheme for the purchase of dwelling-houses in which to lodge these children, and under the scheme acquired No. 16, Elm Grove, Camberwell. Plans were made for alterations in the house for the purposes of the scheme, the effect of which was to provide for a building with a cubical capacity of 50,000 feet. The plans were in the first instance submitted to the district surveyor as plans of a public building within sections 68 and 79. But when controversy arose on the requirements of the district surveyor, the managers contended that the building was not "public," and no attempt was made to argue that they were by the application estopped from raising this contention. The magistrate held that the building was, in the hands of the managers of the Metropolitan Asylums District, used, or constructed, or adapted to be used for a public purpose, and made the order asked for by the respondent. Section 5 (27) of the London Building Act provides that in that Act "the expression 'public build-

ing' means a building used, or constructed, or adapted to be used as a church, chapel, or other place of public worship, or as a school, college, or place of instruction (not being merely a dwelling-house so used), or as a hospital, workhouse, public theatre, public hall, public concert-room, public ball-room, public lecture-room, public library, or public exhibition-room, or as a public place of assembly, or used, or constructed, or adapted to be used for any other public purpose, also a building used, or constructed, or adapted to be used as an hotel, lodging-house, home, refuge, or shelter, where such building extends to more than 250,000 cubic feet, or has sleeping accommodation for more than 100 persons."

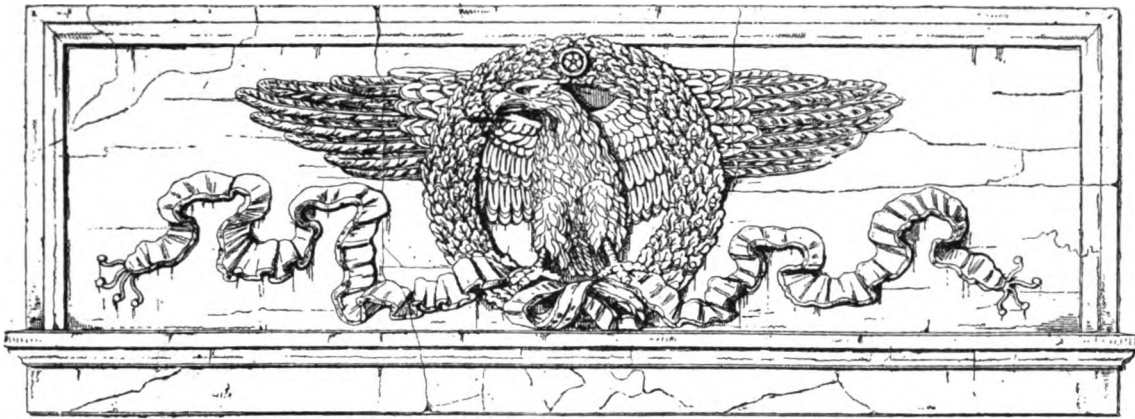
Mr. Macmorran, Q.C. (Mr. Herbert Smith with him), for the appellant, cited *Josolyne v. Meeson* (53 *Law Times*, 319). Mr. R. C. Glen, for the respondent, contended that the building was *ejusdem generis* with a hospital, and therefore within the term a "building used, &c., for any other public purpose."

The Court allowed the appeal.

Mr. Justice Bruce said that he was of opinion that the building in question was not a public building within section 5 (27) of the London Building Act 1894. He did not agree with Mr. Glen's contention that the building was a hospital. No doubt the word hospital originally had a very wide meaning and meant any place of lodging; but in modern times it was used to signify a place for the treatment of the sick or infirm. The building in question could not be considered as a hospital in that sense. Nor was the building within the section on the ground that it was a building used for "any other public purpose." The substance of the decision in *Josolyne v. Meeson* was that the phrase "public purpose" indicated, not a place in which the public had an interest, but one where they could gain admission. Apart from that, a building used "for any other public purpose" must be one used for a purpose *ejusdem generis* with those of the enumerated buildings, and would not include a house used for the purpose described in the case. The building did not come within the term "home" because it had not a cubical capacity of 250,000 cubic feet or sleeping accommodation for 100 persons. The magistrate, therefore, came to a wrong conclusion, and the appeal must be allowed.

Mr. Justice Phillimore said that in his opinion the building was not a hospital in the modern sense of a place for treating physical ailments. The Local Government Board and the Metropolitan Asylums Board had anticipated the provision of the Elementary Education (Defective and Epileptic Children) Act 1899, and had provided houses for the reception of children who were incapable of being associated for the purposes of education with ordinary children, as an adjunct to schools where special arrangements were made for the education of such children. The children placed in these houses were there for the purposes of education, and not for treatment. The houses were, therefore, in no sense hospitals. He was also of opinion that the building did not come within the words "building used, &c., for any other public purpose." These were not perhaps the best words to have used. But they were the words which were used in the former Act dealing with the subject, and as they had received judicial interpretation in *Josolyne v. Meeson* they were introduced into the Act under consideration. The words did not include every building used in the public interest, but only buildings used for purposes which involved the admission of the public, as, for instance, a public lecture-hall, where every member of the public who paid the entrance money was admitted. He was therefore of opinion that the building in question did not fall within the terms of the section, and that the magistrate's decision was wrong.

* See report of the hearing before the magistrate, JOURNAL R.I.B.A. Vol. VII. (1900), p. 480.



ASYLUMS AND ASYLUM PLANNING.

By GEORGE T. HINE [F.].

Read before the Royal Institute of British Architects, Monday, 18th February 1901.*

ASYLUM construction constitutes a special branch of architecture, and while embracing the study of almost every description of building, from a church to a cowshed, the art of combining so many dissimilar structures into one harmonious whole, with the engineering skill necessary to provide for and supply heat, light, and water to what is practically a little town, makes asylum architecture an almost distinct profession in itself. Further, asylums are built for people who cannot take care of themselves, and who have to be watched, nursed, and provided with employment and recreation under conditions inapplicable to sane people; and to provide for all these, while the subjects are under enforced detention, a very special knowledge is required to make their lives bearable, and, as far as possible, comfortable.

There is much to be said on the subject, and I find it difficult to determine what to refer to and what to leave unsaid; but in order to make my Paper of some use to the student of this branch of architecture I shall confine myself chiefly to asylums at home and their most fitting form of planning, and shall limit my excursions into foreign countries to a passing reference to some of the most interesting examples.

I propose to commence with a brief history of asylum building, describing some of the most notable erections, so as to show the evolution of asylum planning; and shall conclude with a description of an ideal asylum of the present day, of the most suitable type for this country.

In speaking of asylums it must be understood that I refer to public institutions erected by borough or county authorities, and not to establishments for paying patients, which generally demand or obtain a different treatment.

Architecturally speaking, asylum designing resolves itself into a question of planning, supplemented by the consideration of the many matters of detail and equipment necessary to fit the building for the reception of an irresponsible class of residents; but in attaching primary importance to the plan, it must not be supposed that no consideration for exterior design need be exercised. These buildings, however, are forced upon the public, with no power of veto; are paid for by them, and, being for strictly utilitarian purposes, should be constructed on the most economical lines consistent with efficiency and durability. The architect, therefore, must rely for external effect on the skilful grouping of his buildings and

* A number of plans exhibited on the reading of this Paper are not reproduced here. The twelve plans published with this are referred to in the text as "Plates I. to XII."

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their fair proportions, and must aim at attaining a simple dignity to compensate for the lack of elaboration in detail.

That lunacy has been known as a disease in earlier days of the world's history is disclosed in many ancient writings, as well as in Holy Scripture; but there is no reliable evidence of buildings erected solely for the accommodation of the insane before the Middle Ages.

Early in the fifteenth century we have record of a most sumptuous building erected in Cairo by the Sultan Kalan for the exclusive use of lunatics.

The Hôtel Dieu in Paris was founded in 656 A.D., but it was not until 1660 that, by a decree of the governing body, two small wards were set apart for the use of persons suffering from mental disease. In 1641 the asylum of Notre Dame de la Paix at Charenton was founded for the reception of lunatics: it was opened with seven beds, and is now one of the largest of these institutions in France.

Gheel, in Belgium, for many centuries has been a resort for lunatics, who originally went to worship at the shrine of a princess named Dymphna, decapitated by her father, her relics being said to have a marvellous curative effect on persons suffering from mental disorder. Here patients were brought to be cured, boarding with the peasants of the district, and from this has gradually developed a colony of resident lunatics numbering to-day nearly 2,000, who, while still chiefly boarding with the inhabitants of the place, are now under a strict code of regulations framed by the Government. This colony has probably initiated the system of boarding out lunatics which prevails in Scotland, notably in Fifeshire.

While foreign countries have had their early asylums, we in England have indisputable records of an earlier one in a hospital at Barking, founded, with the King's consent, in 1370, by a priest named Robert Denton, "for the sustentation of poor priests and other poor men and women who were sick of the phrenzie, there to remain till they were perfectly whole and restored to good memorie."

Bethlem Hospital was founded in 1247; but it was not till the year 1403 that we have any record of lunatics being received here, when in the report of a Royal Commission we read that "six men who were lunatic were confined there, and the hospital possessed for securing such persons six heavy chains of iron with padlocks, four pairs of manacles, and two iron stocks." Bethlem was originally founded as a priory, and was situated in Bishopsgate Street, and thus to the Church belongs the honour of having instituted the first retreat for the mentally afflicted in this country; but how the poor wretches were treated who sought asylum within its walls is best described by Dr. Conolly, who portrays the terrible sufferings of the patients incarcerated in Bedlam; and even as late as the early part of the nineteenth century patients were chained by the arm or leg, with only just enough chain to allow of their standing upright or sitting on a bench close to the wall. There they remained day and night, dirty, ill-fed, and utterly neglected, excepting on Sundays, when they were exhibited to the public, who flocked in to see the mad people caper, the gaolers being allowed to charge a penny or twopence a head to see the show.

Of other early buildings of the class in this country were St. Peter's Hospital at Bristol, founded in 1696; the Manchester Royal Lunatic Hospital in 1706; Bethel Hospital, Norwich, in 1713; St. Luke's Asylum, London, in 1751; and the Liverpool Royal Lunatic Hospital, in 1792. Up to the end of the eighteenth century such lunatics as were not at large were confined in prisons or in the few houses then erected for their accommodation, and were frequently treated worse than felons—often with the greatest cruelty. But in the year 1796 the "Retreat" at York was founded by the Society of "Friends," an institution where an intelligent system of treatment was initiated and carried out under the able direction of Mr. William Tuke. This institution and the novelty of the treatment constitute

quite a landmark in the history of lunacy, and being inaugurated at a time when public interest in insanity was excited by the condition of the King (George III.) a spirit of inquiry into the housing and care of the insane was aroused, which resulted in the passing of an Act in 1818 permitting county justices to erect asylums for the accommodation and treatment of pauper lunatics. This Act, however, being only permissive, resulted in comparatively little, until 1845, when another Act was passed, making it compulsory on local authorities to provide asylums for the insane in boroughs and counties throughout England and Wales. This Act was the outcome of a Royal Commission instituted a few years earlier, when a body entitled the Metropolitan Lunacy Commissioners visited asylums and hospitals all over the country, collecting evidence, the harrowing details of which showed the urgent need for vigorous action on the part of the Government in order to put an end to the terrible abuses even then being perpetrated in relation to lunacy. The Act of 1845 established the present Lunacy Commission with six paid commissioners, whose work of inspection and direction has done so much to ameliorate the condition of the unfortunate people under their care.

It is interesting to note that in 1845 there were only about thirty pauper asylums and hospitals, the latter chiefly for private patients, besides a number of registered houses, and, as nearly as could then be estimated, about 17,000 pauper lunatics in England and Wales. Now (in 1901) there are no fewer than 100 county and borough asylums and hospitals, together with something like seventy registered houses, all of which have to be inspected once, in some cases four times, a year, and 107,000 certificated lunatics to be interviewed by the Commissioners; and this in addition to an enormous amount of office work, including *inter alia* the careful consideration and amendment of the plans of all new asylums and additions in the country, and with no increase in the Commission since 1845. It would seem that some of the offices in His Majesty's Civil Service are no sinecures.

Scotland and Ireland have also their separate Acts relating to lunacy: in Scotland on somewhat similar lines to those in this country, with a Board of Commissioners, but in Ireland the construction and direction of asylums are more directly controlled by the State. Other countries have also their laws relating to asylum construction and management, into which, however, I cannot enter now; and, the object of this Paper being primarily directed to the planning and construction of the modern asylum, I need only refer to the older buildings in so far as they illustrate the evolution of asylum planning, resulting in the system which obtains in this first year of the twentieth century.

Prior to the passing of the Act of 1845, there were only eighteen public asylums in England and Wales, in addition to about a dozen hospitals and a large number of licensed houses, nearly 150 in all, being about double the number which exist to-day. After the passing of the Act of 1845 no less than fifteen asylums were built and opened in the following six years, including that of Derby County, one of the best of the period, and of which I exhibit a plan. It is to me an interesting fact that the earliest of these eighteen asylums still in use is the old one at Nottingham, opened in 1812, now the exclusive property of the county; and that sixty-three years later, in 1875, I made my *début* as an asylum architect by winning the competition for a new asylum for the borough, to be erected in my native town.

Between the Act of 1845 and the passing of the Local Government Act of 1888 county and borough asylums were erected from time to time, until, in 1890, the number of pauper asylums in England and Wales had increased to seventy, and these were, generally speaking, full to overflowing, the justices under the old administration being anxious not to burden the rates until it was absolutely necessary to add to existing buildings; but in the last ten years under the new administration nearly thirty new asylums have been either erected and opened or are authorised and in progress, as well as numerous enlargements of existing buildings.

Having thus briefly sketched the history of asylum legislation in this country, I must turn to the buildings themselves, which it is necessary to study step by step to appreciate the latest developments in the asylum of to-day.

In the early days of manacles and fetters asylums were constructed on the model of prisons—massive walls and dungeon-like cells, with vaulted ceilings of masonry or brickwork, the window openings being barred with iron stanchions, and the day rooms being nothing more than passages of communication to the single rooms generally occupied by the patients both day and night, like felons in their cells. In course of time, as less restraint was exercised and patients were allowed a certain amount of freedom, the passages became widened into galleries, and, later on, an occasional bay window was introduced to break the long line of wall. Still the old plan was followed, and the long gallery, with single rooms opening out of it, was the only recognised principle on which an asylum could be built, and which in time became known as the corridor type of planning; most of the earlier asylums were constructed in this way, generally with a separate single room for each patient.

This type of asylum was usually built in quadrilateral form, with wings extending at right angles to or parallel with the main building. The Derby County Asylum at Mickleover is a good example of this type [see plan], but had in addition to the galleries a square day room at the end of each wing, used as a dining-room. The Somerset and Bath County Asylum at Wells, built from the designs of the late Sir Gilbert Scott in 1848, is another example of the same type, and externally is a fine building of Gothic design, but internally is so faulty in the light of modern planning that it is difficult to advise the committee in their work of modernising it, without the practical destruction of half the building. A first step towards this work of reformation which I am now undertaking is a detached house for the medical superintendent, thus liberating rooms which, as you will see from the plan, are in the very heart of the building adjoining the main entrance, and which can be conveniently adapted for administrative and official purposes.

In the earlier days there was little or no classification, and it was not till some years later that any attempt was made to design wards to meet the varying forms of insanity.

Sir Henry Burdett, in his *Hospitals and Asylums of the World*, attempts to classify asylum plans as follows:—

1. The Irregular or Conglomerate type.
2. The Corridor type.
3. The Pavilion type.
4. The Corridor-Pavilion type—and so on, giving the impression that each type represents a separate order of architecture.

There is undoubtedly a distinction between the corridor and pavilion systems, but all other types are more or less developments of these two, and had some of our most recent asylums been built at the time Sir Henry Burdett published his book, he would, I think, have been puzzled to classify them without inventing new terms. Bexley Asylum, for example, is a development of the corridor, pavilion, and villa types, possessing features of all of them, but not so distinctly as to warrant the asylum being classified under any of these so-called types.

But to revert to the progress made in asylum planning, the Act of 1845 and the influence of the new Board of Commissioners began to make themselves felt; and while the internal arrangements of asylum buildings may have savoured less of restraint, the principle of planning on the corridor system still prevailed. The first development was an attempt at classification by the introduction of a ward for the sick and infirm on each side of the building. At the same time the number of cells were reduced, and more patients were allowed to sleep in associated dormitories.

In the twenty years that followed the opening of the Derby County Asylum in 1851 eighteen county and five borough asylums were erected and opened, all of which were built in a more or less modified form of the corridor system, and of which the City and County Asylum at Hereford, opened in 1871, is an excellent example of the period [Plate I]. The architect was the late Mr. Griffiths, County Surveyor of Staffordshire, whose contributions to asylum architecture were generally in advance of the time. His asylum at Berrywood, Northamptonshire, built four years later, in 1876, possesses some very good points.

Hereford Asylum, as will be seen from the plan, has features distinctly in advance of earlier asylums. Its entrance and official block is on the north side, leaving the entire southern frontage for the patients' airing courts and recreation grounds. Some classification is also attempted in the four distinct and separate wards on each side, all being connected with the administrative centre by covered corridors, so that other wards need not be used as passages to and from the recreation hall and administrative department. The galleries are wide and broken by bays, and in addition to these there are a number of well-shaped day-rooms. The single rooms are fewer, and dormitories are introduced on the same floor as the day-rooms. The sanitary annexes, containing w.c.'s, bath-rooms, &c., are in projecting spurs to the back of the building, with cross-ventilated passages from the wards. A large recreation and dining room occupies a central position, for use by both sexes. The medical superintendent's house is a separate building, connected with the asylum by a covered corridor. These and other improvements mark a distinct advance in asylum planning.

Among other asylums worthy of note which were erected during the last-named period are the Berkshire Asylum at Moulsoford [see plan] and the East Riding Asylum at Beverley, both built on almost identical plans by Mr. C. H. Howell, for many years the consulting architect of the Lunacy Commissioners. These two asylums have many good features, including northern entrances, a separate house for the superintendent connected by a covered corridor, and a certain amount of classification. The Surrey Asylum at Brookwood, also built by Mr. Howell, was opened in 1867.

It was not until the "seventies" that any special provision was made for epileptics, who, being subject to fits, require constant supervision, and thus a plain square room, without recesses or projections behind which patients may temporarily secrete themselves, is the most desirable form of accommodation. In 1874 the Lunacy Commissioners published a plan designed by Mr. Howell for an epileptic ward [see plan], and this has been constantly adopted with trifling variations in nearly every asylum designed within the last twenty years.

The decade of 1871 to 1880 gave birth to further evolutions in planning. The county of Middlesex erected a third asylum at Banstead, opened in 1877, designed on the pavilion system in the form of the letter H. This was an absolute copy of the Metropolitan Asylums Board's imbecile asylum at Leavesden, and was intended to serve as an overflow building for quiet chronic cases; but the plagiarism did not pass without penalty, and before the building was ready for opening the exigencies of lunacy in the county required that *all* classes of lunatics should be received into the new asylum, and the doctors have ever since had to contend with the difficulty of housing all classes of patients in large wards only suited to the quietest cases. Imagine 120 acutely maniacal and refractory patients in one day-room, and sixty of the same class sleeping in one dormitory! This critical condition, however, does not, happily, now exist, as, by alterations and additions from time to time, some more suitable wards have been constructed for special cases. The plan [Plate III.] will show the general arrangement, with some of the wards in their original crude form; the two latest additions for sick and infirm patients on the female side and acute wards on the male side were added under my direction in 1893.

But during this decade perhaps the most notable departure in planning is met with in the Lancashire County Asylum at Whittingham [Plate II.]. This asylum is designed in what Burdett describes as the corridor-pavilion style, and referring to it he says: "This is beyond doubt one of the finest specimens of asylum architecture in England, and its leading features show at once that it was designed by a medical superintendent." This latter statement I am not concerned to dispute; but *palmarum qui meruit ferat*—to Dr. Holland, the first superintendent, the greatest credit is undoubtedly due for the suggestions and assistance he gave to the architect.

Other asylums built from 1871 to 1880 are Northampton, already referred to; Wadsley, the second asylum for the West Riding of Yorkshire; Parkside, Cheshire; and Chartham, the second asylum for the county of Kent; while for boroughs, Portsmouth, Norwich, and Nottingham Asylums were erected and opened. None of these calls for comment, beyond that I think at Nottingham is found one of the earliest special wards for epileptics.

From 1881 to 1890 only four county and four borough asylums were completed and opened, the four county ones being the second Gloucestershire and the Surrey County Asylum at Cane Hill in 1883 [Plate IV.]; the second Glamorgan County Asylum at Parc Gwilt; and the third West Riding Asylum at Menstone [Plate V.], all four being of the pavilion type, and in three of them a new method of arranging the wards in echelon was introduced.

The four borough asylums were those at Rubery Hill for Birmingham, Hull, Exeter, and Derby, but none of them shows any very novel features. It may be noted that Exeter was the first newly built asylum lighted by electricity, the arrangements being, however, very inadequate.

The Gloucestershire second county asylum, of which, by the courtesy of Messrs. Giles, Gough, and Trollope, the architects, I exhibit a plan, is erected on the pavilion system, the blocks being arranged in echelon. The same architects a few years later built the Glamorgan-shire second asylum at Parc Gwilt on somewhat similar lines. The Gloucestershire Asylum was the first of this type erected in this country, and may be said to have originated the oblique or broad-arrow form of corridor, now so commonly adopted in asylum designs.

The plan shows the asylum as it will be when completed for 860 patients, and while each block has a direct southern aspect and free air space on all sides, the length of corridor is enormous in proportion to the accommodation, and the officials in going their rounds have to descend from the top floor of one block, retrace their steps to the main corridor, and so pass on to another block. Imagine the length of corridor in an asylum for 2,000 patients, designed on this principle, and the wearisome journeys the doctors would have to make in going their rounds, or the length of corridor to be traversed by attendants in going to and from kitchen and stores.

Four years after Gloucester was completed the West Riding third asylum at Menstone was opened. This is planned also on the broad-arrow principle, the wards being somewhat similar to those at Gloucester, with improvements in the way of centralisation and arrangement of corridors. A plan of this asylum [Plate V.], for which I am indebted to the architect, Mr. Vickers Edwards, shows this building considerably enlarged from its original dimensions, and now accommodating nearly 1,600 patients. The blocks generally are only two stories high, this being a step in advance of Gloucester and many of the old asylums with their three stories, the third floor being always reserved for dormitories.

The Surrey second county asylum at Cane Hill, now one of the London county asylums, of which I also exhibit a plan [Plate IV.], was designed by Mr. Howell, and is the most important of his works. Originally erected for 1,100 or 1,200 patients, it is now extended to its full complement of 2,000.

The plan, which by the courtesy of Mr. Clifford Smith, the engineer of the London

Asylums Committee, I am allowed to exhibit, shows that the building is on the pavilion type, the blocks radiating from a main corridor of horse-shoe form. There is a diversity of opinion about this building. Burdett speaks somewhat disparagingly of it, but the officers who have to work it, and whose opinion I would rather accept, regard it as one of the best of the large asylums hitherto erected. I am inclined to agree with them, though, like most buildings, it is not faultless: some of the blocks are too close together, and suffer in consequence from want of light and air. The floor levels throughout the building vary, in some cases very materially, necessitating flights of steps in the corridor, when, I think, by a more careful consideration of the surface levels of the ground and a little more excavating, much of their irregularity might have been dispensed with. Surface digging is comparatively cheap, and generally pays for the additional foundations required in a stepped building, with a result of the greatest value in the working of a large asylum.

While referring to this I would urge on all architects designing asylums to give a first consideration to the site. In very many of the plans which come under my official notice this appears to be the last point thought of, and the buildings are generally left to adapt themselves to the site rather than the site being made adapted to the buildings. To the lay mind the removal of soil in bulk assumes an importance which is quite erroneous; but giving it its full value, what is the small additional capital charge compared with the perpetual inconvenience and extra cost of working a building filled with feeble, irresponsible patients, which has numerous steps on the ground-floor, up and down which food trolleys as well as patients have constantly to be conveyed?

During this decade the Local Government Act of 1888 became law, and in the following year county asylums throughout the country passed from the care of the Justices into the hands of the new County Councils. In London the four Middlesex asylums, including the new one at Claybury, which I had the honour to build as the result of a limited competition in 1887, also the Surrey County Asylum at Cane Hill, became the property of the London County Council, the old Surrey Asylum at Wandsworth being transferred by arrangement to the County of Middlesex. Both these last-named counties failed to look sufficiently far ahead, and have now to erect new asylums at increased cost, that for Middlesex being designed by Mr. Rowland Plumbe, and that for Surrey by myself.

Between the year 1891 and the close of the century seven county and three borough asylums have been erected and opened—viz. Claybury and Bexley for London, West Somerset, West Sussex, Isle of Wight, Cheddleton (Staffordshire), and Hill End (Hertfordshire); while for the boroughs, Plymouth, Sunderland, and Middlesbrough are represented. In addition to those opened, there are eighteen asylums in course of erection or authorised, making twenty-eight asylums in England and Wales alone for which county and borough authorities are responsible since the Local Government Act came into force in 1889.

Of the ten asylums already opened I can only briefly refer to some; and if among them I include asylums designed by myself my egotism must be excused on the ground that I have plans already prepared which I can exhibit.

Excepting the Borough Asylum at Plymouth, designed by an old Fellow of the Institute and cousin of mine, Mr. James Hine, Claybury was the first to be opened in this decade, and is perhaps the most notable on account of its size and type of plan.

Whatever credit is due for the arrangement and classification of the wards must be shared by the committee who issued the most comprehensive instructions to architects, and particularly to their energetic chairman, Mr. A. W. Gadesden, and Dr. Claye-Shaw, of Banstead, who formulated the instructions.

In designing this asylum the question which seemed to me of primary importance was

that of accommodating so many patients (2,000) within reasonable distance of the administrative centre without prejudice to the position and aspect of the wards. The plan I adopted was a modification of the echelon type, the wards being approached from obtusely oblique corridors, the pavilion system being almost a necessity from the conditions issued.

The asylum is built on the top of a hill, falling all ways, and by removing the apex of the mound, representing nearly 100,000 yards of soil, and which was well disposed of in filling up a valley to the north of the asylum, a level plateau was obtained, sufficient to allow of about half the patients' blocks and the whole of the administrative department being erected at one uniform level; the remaining wards are slightly lower, but in no case more than 5 feet below the central buildings.

At Claybury the principal entrance and the official block are on the south side, the only instance in which I have adopted this position; but here the site favoured an approach from the south, as the road winds up to the asylum through a wood, and is screened from view of the patients' wards and airing courts. In a large asylum this way of approach is sometimes the only possible one; and when it can be adopted, the north side is left free for the working departments and the roads for heavy traffic.

It will be seen by the plan [Plate VIII.] that the entire administrative department, recreation hall, kitchens, stores, and laundry buildings are flanked by two service corridors communicating with the corridors leading to the wards, and thus patients of both sexes, with their nurses and attendants, can approach the central departments without either sex coming into contact with the other—a very necessary consideration in the planning of these large institutions. It is not easy to realise from the plan that the accommodation provides for 1,200 women on one side, while on the other are wards for only 800 men; the blocks on each side, though similar in outline, are different in both size and detail.

The six infirmary blocks to the south and the two blocks for epileptics are two stories high, the remaining blocks being three stories high. The epileptics are housed with day-rooms on the ground floor and dormitories above, this being by an instruction of the committee from which I differed and protested against, but without avail; and I am only surprised that the Commissioners finally allowed this to pass on condition that a small dormitory should be constructed on the ground floor for the use of those patients whom it would be particularly dangerous to send upstairs.

The chapel occupies a central position on the south front between the entrance block and the medical superintendent's house, and is attached to the asylum; an arrangement which is now regarded as open to objection by the Lunacy Commissioners, who ask for detached chapels in the grounds, as being more consistent with the patients' preconceived ideas of attending religious worship.

Time will not allow of my saying more about Claybury, but I must not omit to state that the old mansion house on the estate, which was enlarged and adapted as an asylum for fifty private patients, has been already absorbed by the great influx of pauper patients, and the two buildings originally designed for 2,050 patients now accommodate nearly 2,500, in addition to about 400 of the staff, giving a total accommodation for nearly 3,000 people in this asylum. I should add that there is a very complete and well-fitted building, comprising physical and microscopic laboratories with photographic and lecture rooms, in connection with the mortuary and post-mortem rooms, for pathological study, where Dr. Mott and his assistants are engrossed in researches which we hope will tend to limit the growth of insanity. There are also extensive farm buildings of quite a model character erected on the estate.

The other asylums opened between 1891 and 1900 are those at Cotford, in Somersetshire, for 450 patients, with provision for extension to 600, on the pavilion principle, by

Messrs. Giles and Gough; the asylum for West Sussex, designed by the late Sir Arthur Blomfield, and now being added to by his sons—a very nice little asylum, also on the pavilion type, with an entrance on the north side and a charming detached chapel; an asylum near Newport, in the Isle of Wight, by Mr. Jacobs, of Hull, who also designed the Borough Asylum at Derby; an asylum near St. Albans for the Hertfordshire County Council, of which I exhibit my plan [Plate IX.]; the third asylum for the County of Stafford at Cheddleton, the best, in my opinion, of Messrs. Giles, Gough, and Trollope's designs, and of which they lend me a plan to exhibit; the London County Asylum at Bexley, of which more hereafter; the three small Borough Asylums of Plymouth, Middlesbrough (the last asylum designed by Mr. Howell); and the Sunderland Asylum by myself [see plan].

Referring again to Bexley Asylum, the small plan exhibited shows it designed for the accommodation of 2,000 patients, in which, I think, the villa system is first introduced in the original design of a pauper asylum in this country, but only on a tentative scale of three villas holding thirty-five patients each, and a detached hospital for fifty phthisical cases or others requiring isolated treatment.

In the main building I have aimed at securing continuous supervision—a difficulty which I referred to when speaking of Gloucester; and it will be seen by the plan that all the wards communicate with one another, and an officer may pass from one end of the male or female side to the other without retracing his footsteps or being obliged to return to the main corridor.

Half the asylum is designed for the accommodation of infirm, recent, and acute cases. All the epileptics in the building are housed entirely on the ground floor both by day and night, the chronic quiet cases being on the first floor above them; and the working patients, whose work on the farm or in the laundry enables them to dispense with the frequent use of the airing court, are housed in blocks fronting the two large interior courts. This building is planned with a view to centralisation; and, considering its magnitude, the wards are all arranged within reasonably easy reach of the administrative centre. The entrance block is on the north front, and the chapel—a detached building—is a few yards to the north of this, and may be readily approached from both sides of the asylum. The medical superintendent's house, which hitherto the Lunacy Commissioners have required to be in direct communication with the asylum by a covered corridor, is now, for the first time in an entirely new asylum in England, made a separate structure; an arrangement which superintendents for years have been striving for.

While referring to Bexley Asylum I should add that the London Asylums Committee having to build another asylum and being well satisfied with the one at Bexley—perhaps the cheapest asylum erected of late years—arranged with me to use the same plans, with a few modifications and improvements, and provide them a second edition of the same asylum at Horton. I exhibit a ground-plan of the main asylum at Horton [Plate X.].

I also exhibit a plan of a small asylum for 420 patients [Plate XI.], now in course of erection near Sleaford for the Kesteven division of the county of Lincoln, and for which I obtained the commission as the result of what I hope will be my last competition.

I must not omit to refer to the temporary buildings which the London Asylums Committee have found it necessary to add to several of their existing asylums in order to keep pace with the growth of lunacy. These erections, chiefly of wood and iron, have been put up at Hanwell, Colney Hatch, Banstead, and lastly at Horton Manor, under the direction of Mr. Clifford Smith, and provide accommodation together for 1,700 patients at a total cost of about £178,000, averaging £100 a bed; a low rate compared with the cost of permanent structures, but very costly when their limited life is considered. I exhibit a plan of the buildings at Horton Manor lent me by Mr. Clifford Smith.

B B

I have thus briefly dealt with all the asylums in England and Wales erected and opened during the past century ; but before passing on to my next chapter I will call your attention to the plan of an asylum which I enlarged some few years ago in a way which may, I think, be interesting to study.

The old Dorset County Asylum at Forston, opened in 1832, had been supplemented in 1863 by a new asylum at Charminster, accommodating about 340 patients. About the year 1890 it became necessary to close the asylum at Forston and enlarge the more modern building at Charminster, increasing the accommodation from 340 to 740. An open competition was instituted, in which the competitors generally showed extensions radiating from the existing building, but leaving no room for extending the administrative departments in the centre, which, none too large for the original number of 340, was utterly inadequate for the enlarged asylum of 740. Following the lines of a recent addition I had made to the Nottingham City Asylum, I sent in a design showing the original building entirely devoted to male patients, with a new annexe to the east of it for women, and new hall, kitchens, and laundry buildings between the two. The plan [exhibited] shows both the old and new buildings as they now are, the old buildings occupied by the men being tinted blue, and the recent additions pink. The old laundry buildings, hatched blue and pink, were gutted and converted into a ward for male epileptics.

The additions contain boiler and engine houses, where steam is generated to do all the work of the asylum—viz. heating, hot water supply, cooking, laundry work, pumping, and the electric lighting of both old and new buildings. I should add that by utilising the exhaust steam from the dynamo engines for heating purposes the greatest economy is effected, and Dr. Macdonald, the able superintendent of the asylum, after making a series of tests, claims that he gets his lighting practically for nothing.

The plan of Nottingham City Asylum [Plate VII.] shows this principle of extension, where, however, the old laundry was enlarged and a second kitchen added to the annexe, instead of one new central cooking department, as at Dorchester.

Before treating of asylums in foreign countries, I must say a few words about our Scotch asylums. I have refrained from describing them with the English and Welsh asylums, as they are administered by a separate authority—a board of commissioners whose duties, though similar in many respects to those of the English Commissioners, are exercised under different laws and with different results in the planning of their buildings.

Of the half-dozen old royal asylums, being those instituted under Royal Charter, that of Edinburgh at Morningside is certainly the most notable, chiefly on account of the recently erected buildings at New Craig House, the conception and carrying out of which are mainly, if not entirely, due to the ability and energy of Dr. Clouston, one of the most eminent specialists in lunacy matters of the day. The new buildings are exclusively for the use of paying patients, and consist of the main institution, constructed and fitted up on almost palatial lines, and a number of detached villas.

In these asylums, where paying patients are received, all additions and improvements are generally paid for out of the profits derived from the private patients : this, I believe, was the case with the New Craig House at Morningside. In this country, at Northampton, Mr. Bayley has purchased estates, and from time to time constructed one of the largest and most complete asylums in this way.

Of the Scotch district asylums, corresponding with our county or borough asylums, the Barony Parochial Asylum at Lenzie, near Glasgow, opened in 1875, was, at the time it was designed, one of the most advanced buildings of the day. Later on, the Govan Asylum at Hawkhead and the Glasgow Asylums at Gartloch and Hartwood best illustrate modern ideas in asylum planning north of the Tweed.

I have prepared a plan on an enlarged scale of the Gartloch Asylum, from which it will be seen that the building comprises two distinct blocks designated the "asylum section" and the "hospital section," the latter being reserved for the treatment of all the sick and infirm in the building, and also for the reception and treatment of acute and curable cases, while the "asylum section" is designed for the accommodation of all other classes, mainly the chronic and incurable cases.

The Scotch system of housing in the hospital the curable and incurable cases together is encouraged by the Scotch Lunacy Commissioners, who consider it undesirable to separate entirely the two classes. Dr. Conolly entertained the same view, and says in his book on Asylum Construction, "I believe the absolute separation of the curable from the incurable to be neither practicable nor desirable, and I know that the incurable patients are generally fitter companions for the curable than the curable patients are."

On the other hand, many of the more thoughtful of our medical experts in this country hold that a hospital, totally distinct and apart from the asylum, for the reception and treatment of new cases, who are not on admission diagnosed as hopelessly incurable, must prove an important factor in the cure of lunacy. It is well known that many forms of insanity are readily curable at an early stage, but by neglect or unfavourable conditions often result in permanent and incurable disease. Every inducement therefore should be given to the public to place their friends under treatment when the first symptoms of mental trouble appear; and with a hospital as a separate and distinct institution, and which does not share in the popular stigma attaching to a lunatic asylum, there will be less reluctance, both with the friends of the patients and patients themselves, to enter a building which by its very name holds out a prospect of cure.

An acute hospital for curable patients should be constructed on different lines from the main asylum, and should afford every opportunity to the doctors for the separate or special treatment of newly admitted patients, and if curable cases are to be found who thrive better in the society of chronic lunatics, let them be transferred to the main asylum, without leaving the majority to suffer, for the sake of the few, a terrible evil which prevails far too often in many ways in some of our large asylums.

In 1889 the London County Council appointed a committee to inquire into and report to the Council upon the advantages which might be expected from the establishment, as a complement to the existing asylum system, of a hospital with a visiting medical staff for the study and curative treatment of insanity. The committee held a series of meetings, inviting a number of leading experts in the medical profession to give evidence, and published a very comprehensive report showing that the evidence adduced was greatly in favour of the scheme. They summed up with a strong recommendation in favour of the establishment of such a hospital; nevertheless the London County Council reversed the decision of their committee, and have gone on building asylums on the old lines. A later recommendation of the London Asylums Committee for the establishment of a number of receiving-houses throughout London is still under consideration, but special parliamentary powers will have to be obtained before their recommendation can be carried into effect.

In the meantime other county authorities in England are interesting themselves in the question, and a hospital for the reception and treatment of curable cases has already been erected at the old West Riding Asylum at Wakefield [see Mr. Vickers Edwards's plan], while the first building of its kind in this country, forming part of an original scheme, is now in course of erection at the New East Sussex Asylum at Hellingly, the plans of which I exhibit, and will refer to shortly. Other counties are following suit in this respect. Surrey and Worcestershire, for which counties I am now preparing plans for new asylums, propose to do the same, and in the new asylum for Middlesex at Napsbury, designed by Mr. Rowland Plumbe, a separate building is included for acute cases, but on the Scotch principle, in which

provision is also made for the physically sick. [See Mr. Plumbe's plan, kindly lent for this evening.]

This digression on the subject of an acute hospital, which I could not refrain from referring to as being so important an evolution in modern asylum planning, seemed to me to fit in with a description of Scotch asylums, where the principle is now generally adopted, though, as before explained, in a somewhat different form. You will see from the plan of Gartloch Asylum [Plate VI.] the two buildings side by side, detached but close together. The entire asylum accommodates 560 patients—390 in the asylum section and 170 in the hospital section.

The asylum section is a building on the pavilion principle, two stories in height, and comprising two wards on each side for convalescents and chronic cases, the day-rooms being on the ground floor and the dormitories above. There is a large dining-hall on the ground floor, with a recreation hall over it. The administrative department occupies the centre, flanked by the workshops and laundry buildings in the usual way. The plan is simple but effective, its simplicity being more easily possible in so small an asylum. At right angles to the main asylum is the hospital section, where 170 cases may be housed. Flanking the entrance block and official rooms are two wards for recent cases requiring constant observation, the day-rooms being on the ground floor, with dormitories above.

The remainder of this building is only one story high, and is devoted to patients who for any reason, bodily or mental, need special attention: one wing is set apart for noisy cases, each patient sleeping in a separate single room. The two front wings are designed as day-room dormitories, such as a sick ward would be in a general hospital; while another dormitory and day-room, with an exercising corridor at the back, may be occupied by patients not confined to bed. A small ward at each end, cut off by a cross-ventilated corridor, is set apart for infectious cases. This asylum is erected and fitted up in almost a palatial manner; the building is entirely of stone in the Scotch baronial style, no expense having apparently been spared either in the external treatment or interior finish.

The new Govan Asylum at Hawkhead is very similar in plan, and possesses one of the finest recreation halls in the country, with a stage equal to that in many modern theatres.

Hartwood, another recently built asylum for the Glasgow district, must speak for itself in the plan I exhibit. I have not myself seen this asylum. A very excellent detached block is provided here as a nurses' home, being another important step in advance.

While there are many other asylums I should like to refer to, the time at my disposal will not allow me to say more than I have done, and to attempt to describe to-night the Continental asylums in more than a passing way would, I am afraid, bring down upon me a just rebuke for so severely taxing your patience.

Of the asylums on the European continent there are a few that merit some attention, including the German ones of Dalldorf and Herzberge, near Berlin, also the epileptic colony of Wuhlgarten at Biesdorf, of which I exhibit a number of drawings given me by Herr Blankenstein, the State Architect, on my last visit; also the three asylums of Uchtspring, Zschadrass, and Alt Scherbitz, in Saxony, and the two asylums of the Rhine Province of Grafenberg, near Dusseldorf, and Galkhausen, near Cologne, the latter being, I believe, the most recently erected asylum in Germany built entirely on the villa system and barely yet finished.

Of French asylums the older ones are not especially interesting, and of the modern ones those of Ville Erard and Ville Juif, near Paris, both on the pavilion principle, have not the same interest as the German ones where the villa system prevails; and therefore I shall, perhaps, best satisfy the uninitiated by giving a brief description of the villa system as seen in the asylum at Alt Scherbitz, which may be said to have originated this type of planning, now adopted more or less in a number of the modern American asylums, and more recently, but to a less extent, in England.

I have reproduced to a larger scale a small block plan published some years ago of the Alt Scherbitz Asylum, which, while giving no detail, is sufficient to illustrate the type of planning. The asylum consists of two sections, the general asylum to the north of the high road comprising wards for the reception and treatment of all new cases, infirmaries for the sick, and wards for the treatment of patients suffering from more or less acute forms of mania, where they are subjected to certain restraining influences; but even in these wards everything possible has been done to dispel the idea of detention, and the buildings are very home-like in character, and to a large extent worked on the "open-lock" system. In the wards for the worst cases the windows are in fairly large squares, very different in appearance from the small narrow panes met with in most of our English asylums; but I ascertained on inquiry that they were glazed with unbreakable glass, somewhat costly, but admirably fulfilling the purpose. The shutters in the single rooms, instead of being like the heavy close boarded framings in use here, are constructed like Venetian shutters, lightly but very strongly made, and, when closed, suggest that the intention is to keep the sun out and not the patient in.

Among other buildings north of the road are those termed the Emperor William Augusta foundation, the cost of which was raised by subscription to commemorate the golden wedding of the Emperor William and Empress Augusta. These are occupied solely by aged and infirm imbeciles of both sexes. To the south of the road is what is called the "colony," comprising a number of villas constructed to hold twenty-five to fifty patients each, also kitchen, laundry, workshop, general hall, and other official blocks and residences. Some of them originally were old farm buildings on the estate altered and adapted to their present uses. The villas are constructed very much like boarding-schools, with day and class rooms on the ground floor and associated dormitories above. I have drawn to a larger scale the plans of one or two of these villas. The doors and windows are open, and the patients come and go as they please, wander about or work in the grounds, enjoying comparative freedom, but are always under the watchful eye of carefully trained attendants. There is no wall surrounding the estate, only a light and easily climbable fence. The gardens surrounding the houses in the central establishment are enclosed with palings grown over with plants and creepers. At one time some of these enclosures were surrounded by walls, but these have been removed, Dr. Paetz, the Director, considering them "superfluous and probably injurious."

The "colony" is bounded on the south by the river Elster, which winds its course at the foot of a steep hill in the grounds covered with trees and undergrowth, and there is nothing to prevent a patient rushing down this hill and plunging into the river.

Great value is attached to residence in the colony, and patients are given to understand that their stay there depends entirely on their good behaviour, and are thus encouraged to exercise self-control. Meals are served in the various blocks and villas, not in a general dining hall, the food being conveyed in a large wagon jacketed and protected to keep in the heat. The building termed "assembly-room" serves the purpose of a village hall, where all entertainments are held, and temporarily also for religious services. There are other rooms for recreation purposes attached to the hall, including a billiard-room.

Much has been said about the relatively small cost of these buildings, but the circumstances under which the various blocks were erected or adapted from existing buildings make the statistics given wholly unreliable as a comparison with the cost of other similar institutions.

American asylums, like most of the works of our transatlantic cousins, contain many original ideas. I must, however, confess to having never visited America, and can only speak of what I have read and seen on paper. I have, however, collected plans of some of the principal ones, and have mounted them together on a stretcher, and for which I am indebted to the courtesy of Dr. Stansfield.

ASYLUMS AS THEY SHOULD BE.

Having thus described—somewhat lengthily, I am afraid—asylums as they are, I will, if not trespassing too much on your time, say something of the possibilities of asylum-designing and describe an asylum as it should be. I would, however, first remind you that ten years ago, when the International Congress of Hygiene selected London as its place of meeting, a Paper was asked for on Asylum Construction. Mr. Howell, who was then *facile princeps* the asylum architect of the day, was unable to do what was wanted. I protested that I was too busy, but was met with the objection that it was the busy men who did the work; and, therefore, thinking I knew something of asylum construction, I finally consented to fill the breach. When I look back at that Paper—a rare occurrence—I think how very little I knew about the subject; and I sincerely trust that no architect anxious to design an asylum will read that Paper in search of inspiration. If I live another ten years and look again at this Paper I shall doubtless repeat these words, and admit, with a sigh of regret, that the longer I live the less I know.

But, to give something more than negative advice, let me recommend the young disciple in asylum planning to humble himself and sit at the feet of his Gamaliel, the asylum doctor; let him confess that while he can draw lines he knoweth not the direction they should run in. To understand the first principles of asylum construction it is necessary to know something of the eccentricities of insanity and the habits and treatment of the insane. Let him, therefore, make friends at all opportunities with these medical experts; and, while he will at first find confusion, in his experience of the old maxim of doctors' differences, he will, by sifting the evidence, in time arrive at many useful conclusions to help him on his way. Personally I gratefully acknowledge the courteous reception I have always experienced from these gentlemen, and the information and advice I have obtained, which have, I know, materially contributed to my success; and I can therefore with confidence say: Study asylum construction in the light of those whose duty it is to look after the insane.

Dr. Conolly, in his work on Asylum Construction, says: "The recovery of the curable, the improvement of the incurable, the comfort and happiness of all patients should be steadily kept in view by the architect from the moment in which he commences his plan." This should be the keynote of the architect's work; and while he may say, "It is my business to build the house, but it is the doctor's duty to cure the patient," he must remember that he can materially assist the doctor in his cure, as well as his protection, of the patient by the careful consideration he gives to the many details of planning and construction of the house which the patient has to live in; and in doing this he will find that he must design buildings which give security without appearance of restraint. The ever-present sense of detention is, in a way, as inimical to cure as were the cells and fetters of the eighteenth century.

Sometimes an architect will find it a difficult matter to induce his clients or their medical superintendents to believe that every pipe on the wall, hook, knob, or other projection is not a source of danger, and he is often asked to protect these, sometimes in so palpable a way as to suggest to patients that they are not allowed to hang themselves up on them. In some of the more advanced asylums you will find the open-lock system prevails, where you can walk from one end of the building to the other without a key; in others every door is locked, and the key is never out of the officer's hand. The system has much to answer for in this respect; and the inevitable inquiry which follows every accident, suicide, or escape is no doubt a source of dread to many—particularly those in charge of very large asylums, like the London ones, accommodating 2,000 patients each. But even in buildings like these I think the best

protection is a well-organised staff of attendants; and I agree with Dr. Clouston that "cure, not mere confinement, should give the keynote of construction, and necessary vigilance on the part of skilled attendants must always be assumed. The older asylums left little for the attendants to do, and this had the worst effect on the patients." The introduction into an asylum of automatic contrivances which will not allow of a mistake, while excellent in themselves, have frequently a pernicious effect on the attendant, tending to make a mere machine of him by robbing him of responsibility.

Again, when the architect has produced his design he will have to pass the ordeal of the Lunacy Board, and will find, perhaps, some of his pet ideas ruthlessly crushed. But let him not be discouraged. He has much to learn, and if he does this gracefully he will find the Commissioners, who have had many years of practical experience in working asylums, ever ready to teach him and explain the reason why. I frankly admit that my plans again and again have emerged from the purging they have received at the hands of the Commissioners, or their consulting architect, greatly improved; and now that there is no consulting architect to show me my faults I have to be doubly censorious on my own plans.

But, leaving these side issues to themselves, we will assume that we have an asylum to design, of fair but not unwieldy proportions—say for 800 patients, with provision for future extension to 1,200. We must first study the site and ascertain its possibilities. If very irregular it will determine, to some extent, the type of building; and if *very* uneven it may be *necessary* to adopt the pavilion system, so that each block will connect with the corridor of communication at one point only. The corridors can slope in any required direction, but steps, particularly on the ground floor, are objectionable. Then the first thing to determine is the principle of construction, whether all in one building, or a main asylum with villas or other detached buildings; and, where it is possible to do so, I would say, introduce a receiving-house—or acute hospital, as now termed—for the reception and treatment of all but the hopelessly incurable.

I gather from statistics obtained from other asylums that this hospital should hold from seven to eight per cent. of the total number of patients. Thus in our asylum, in which we provide for 1,200 when completed, we should build our acute hospital for eighty or ninety; and it is important to remember in designing for a smaller number, with provision for extension, that the ultimate number should always be considered in determining the immediate accommodation for special cases; for the simple reason that chronic, quiet, and working patients *can* be housed in wards designed for other classes, but not *vice versa*; and while it is an easy matter to add plain wards for chronic cases, it would create a serious disturbance to the patients and the working of the asylum if at any future time each of the wards for special cases had to be enlarged.

To illustrate my meaning while I describe our asylum I will refer you to the plans of the new East Sussex Asylum at Hellingly [Plate XII.], now in course of construction, and designed on the most modern lines, the whole scheme having been most carefully thought out by a sub-committee of the East Sussex County Council, with Dr. Hayes Newington at its head, whose wide experience, acquired in many years' association with asylum work, gave his committee an immense advantage in determining the basis on which they should work. Here we start with immediate accommodation for 1,115 patients, and provision for extension to 1,275, arranged as follows:

1. An acute hospital for eighty patients, which, you will see, is near the entrance to the estate, and nearly half a mile from the main asylum.
2. A main asylum building for 840 patients of all classes.
3. Four detached villas, each holding thirty patients.

4. A block for sixty idiot and imbecile children, with rooms for fifteen quiet female patients, who assist in nursing the children.

This makes up the 1,115 we are now building for. The remaining 160 patients to complete the ultimate number will be provided for in further blocks attached to the main asylum or in more villas, whichever is found in experience to be more desirable.

In addition to these buildings are the chapel, the superintendent's and steward's houses, a small isolation hospital for infectious diseases, a lodge, and a number of cottages for married attendants and artisans. The workshops, laundry buildings, recreation hall, also the boiler and engineering houses, are all attached to the main asylum, where are also the principal kitchens and stores. It will be noted that a tramway line from the railway station is laid right up to and into the main asylum, so that coals and stores can be conveyed from the railway into the building without being unloaded from the main-line trucks.

But to return to our asylum—which we have decided shall include an acute hospital—we will first consider the design of this, the most important building in the whole scheme. Here it is that every patient—unless known to be hopelessly incurable—is admitted, and during his stay in this hospital his future life is probably determined, whether he shall recover and go back into the world, or whether he shall pass on to the main asylum for the remainder of his days, to eke out an unhappy existence at a cost of more than £30 a year to his county. On every ground, therefore, we cannot afford to neglect anything—consideration, care, or money—necessary to produce a building which affords the doctors the best opportunities for treating and curing their patients; and any money thus spent will prove the truest economy in the end.

The hospital may be two stories high generally, and must have its own kitchen, where special diets can be prepared; also other necessary offices; but no workshops, laundry, or engineering shops. It should also have a small recreation room where patients can meet for entertainment, though many will often be allowed to join in the entertainments at the large recreation hall in the main asylum. There must be a small official block with offices for the resident doctor and others of the staff, and proper rooms for examination of the patients on their admission, with bath and dressing rooms attached. The remainder of the building will be devoted entirely to the use of the patients.

The rooms must be of various forms and sizes, with ample means of segregation. There should be much scope for classification, but not quite on the same lines as in the main asylum. A ward which can be subdivided for the acutely maniacal, and a ward for the quiet and melancholic, also a ward for convalescents, are necessary; and, above all things, plenty of single bedrooms, and two or three private sitting-rooms where single patients can be treated separately. The dispositions of the various rooms must be left to the architect, but let them be as bright and cheerful as possible, and very homelike in character: few locked doors and no barred windows or anything to suggest imprisonment. The attendants, who in the hospital should be in greater proportion to the patients than in the main asylum, must be the locks and bars by their unremitting care and attention.

The next matter to determine is, How shall the remaining patients be housed? Some think that all lunatics can be best treated in separate houses or villas, as in the colony at Alt Scherbitz; and the Edinburgh District Asylums Board, after visiting a number of asylums both at home and abroad, have adopted a design by Mr. Hippolyte Blanc (a little tracing of which I exhibit) for a new asylum near Edinburgh for 1,000 patients, housed in thirty-three villas, which, together with other buildings, are dotted about like villa residences on a suburban estate.

It will be interesting to learn how this asylum can be successfully worked in a climate

like Scotland, where all the food supply and administration have to be carried out from one centre and over several hundred yards of roads. My own opinion is that a certain number of villas can be usefully filled by convalescents or quiet chronic patients who work on the land or in the laundry. These may be made self-contained, each with its own kitchen, where, on the women's side, the patients can assist. On the men's side the wife of the farm foreman or gardener in charge of the house can do the cooking.

At Hellingly we have started with four villas as a tentative step—two for each sex—one of each having a kitchen for all food service, the other with a smaller one for only breakfasts and teas, as the dinners will be served from the general kitchen, or the villa patients will dine in the main building. In the few asylums where villas have been added to existing accommodation they are much appreciated by the patients on account of their homeliness, and possibly also for the greater freedom allowed. In one of the women's villas at Hellingly a large workroom is attached for sewing and machine work. It is also very desirable to provide separate accommodation for idiot or imbecile children.

In the first erections for 800 patients we will start with, say, four villas, two for each sex, holding thirty patients each, and these, with the acute hospital, will provide for 200 out of our 800, or ultimate 1,200. For the remaining 600 I should say, Build one main asylum, providing for its possible extension up to 1,000, or something less if more villas are found in experience to be better; but, under any circumstances, the administrative department, kitchens, laundry, workshops, and recreation hall must be erected in the first instance sufficiently large for the ultimate number of patients. This will undoubtedly add to the cost, but will save the greater eventual cost of enlargement, to say nothing of the disturbance to the working of the asylum. When plans are submitted for the enlargement of an old asylum, one of the greatest difficulties is to find space and means of increasing the central offices to bear adequate proportion to the extended wards.

The Lunacy Commissioners, in their instructions to architects, direct that certain classes of patients shall be provided for in certain proportions—that is to say, for the sick, the feeble or infirm, the recently admitted, the acute and refractory, epileptics, and quiet chronic and working patients, with variations for sex, females being usually more numerous; but in our model asylum we must remember that we have already disposed of, in the hospital, all our recent cases, which include a certain number of sick and acute, and in the four villas of 120 of our quiet chronic and working patients; we have therefore to provide for sick and infirm, chronic acute, refractory, and epileptics in our main asylum.

The rule is that 25 per cent. of the whole number shall be for sick and infirm cases, and this in 1,200 gives us 300, and with 20 per cent. of recent and acute, and 15 per cent. of epileptics, we have 420 more; and, after deducting the 80 in the hospital, we have left a net total of 640 for our main asylum, being very near the figure we started with. We must of course leave room for future blocks or villas of simple type for 400 quiet chronic and working patients to bring up our complement to 1,200.

I do not propose to take you through all the stages of asylum construction; the Commissioners' instructions give all information as to areas and cubic space necessary for each class of patient, and it will be sufficient to say a word or two as to the type of ward. Generally in asylums the sick and infirm are classed together. I think it better to break up these wards and provide a hospital ward for the actually sick, and other wards for the feeble and infirm. At Hellingly the committee's idea is to nurse all the sick and infirm patients by female nurses as far as possible, and, to make this feasible, the infirmaries on both sides adjoin one another, but are divided into wards so arranged that it is possible to put all eight wards, or any less number, under the charge of the female nursing staff.

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In the plan for the new Worcestershire County Asylum [exhibited] I have designed on both sides a small hospital ward on each floor, with a larger ward for feeble or infirm patients adjoining it; thus the actually sick can be kept entirely by themselves and nursed in a small associated dormitory, as in a general hospital, or in separate single rooms.

The infirmary wards should come nearest to the administrative centre, as these patients require the most attention from both doctors and staff, and will generally take all their meals in their own wards. Next to these wards should come either those for the acute and refractory or the epileptics. The recent acute cases will all be in the acute hospital; but where there is no detached hospital a small separate ward should be provided for recent cases. In our hypothetical asylum we have only to provide for the actively suicidal or maniacal and noisy or refractory cases, and in these wards there should be plenty of separate single rooms—the Commissioners say a third of the whole number—and there should also be several day-rooms, allowing for the separation of the patients. At Hellingly, as you will see, there are three day-rooms together, separated only by glazed partitions, which allow of better supervision. The dormitories should not be large, except in the case of one to be used as an observation dormitory for suicidal or troublesome patients, where a night attendant is always in charge.

The epileptic wards should, if possible, be on the ground floor, as at Bexley, where quiet chronic patients occupy the floors above. These patients are subject to fits, sometimes very frequently, and the consequences might be serious if a patient were seized with a fit going up or down stairs. For the same reason the day-rooms should be plain and square, without nooks or corners, and the dormitories should be square and roomy and easy of observation, as here, again, the attendant sits up all night. A few single rooms for special cases should open out of the dormitory, with glass and open panels in the doors.

Lastly, the wards for chronic quiet or working patients, which, for economic reasons, may be of the simplest type, but as homelike as possible, and not extravagant in construction or detail. These wards are intended for the wreckage of the insane population whose chance of recovery is very remote, if not hopeless, and the comfort and safety of the patients are all that need be aimed at. No segregation or special treatment can relieve them; and yet, for humanity's sake, their lot should be made as easy as possible by building and furnishing their wards in a homelike way and allowing them a maximum of liberty compatible with safety.

Every ward in the building should have its sanitary annexe approached by a cross-ventilated corridor, and containing w.c.'s in proportion to the number of patients, slop, brush, and soiled-linen rooms, also lavatories, and at least one bath for emergencies, or in the infirmary wards for regular use—a general bath-house with dressing-rooms being necessary in all asylums; also in each ward a scullery with a small cooking range, a larder, a ward store-room, and a room for hats and boots near to the outer entrance; also rooms for one or two attendants (in larger wards more), one being attached to and overlooking each dormitory. The remainder of the attendants should be housed in a separate block, having a cheerful outlook and as far as possible from the scene of their daily labours. Here there should be sitting or recreation rooms on the ground floor, with separate bedrooms above, one for each nurse or attendant who can be spared from the wards. If the block is near enough to the administrative centre, their dining or mess room may be in it, otherwise it must be near the general kitchen.

It is scarcely necessary for me to enter into the details of the administrative departments. It is obvious that in these must be the kitchens, general store-rooms, workshops, and laundry buildings, all in proper proportion to the asylum; also a recreation hall, where in many asylums the patients all dine together, as some doctors think to their advantage; but this is one of the points on which doctors differ. The Commissioners, who see the working of all asylums, regard

with favour the system of associated dining, and, while they cannot insist on its being adopted in all asylums, require that the dining or recreation hall shall be near the kitchen, with easy means of service from one to the other. Our entrance and official block, where are the committee-rooms and offices, should be on the north side, for reasons already explained; and on the upper floor may be reserved rooms for some of the assistant medical officers, provided that one doctor at least should reside near the patients' wards, and for this reason a block for all the assistant medical officers is often located on the south side, between the male and female infirmary wards.

The chapel, as before explained, must be a detached building, and the superintendent's house now may, and should, be as far removed from the asylum as possible, consistent with the fact of his being frequently wanted there. If he is a married man it is very undesirable that his family should be brought up in close association with the asylum, and in these days of telephones a detached residence may be erected quite away from the asylum, as at East Sussex, where the house is on high ground north of the approach road, and will have a private garden fenced off from the rest of the asylum grounds.

If time allowed I should like to say something of the engineering works and internal fittings of the asylum, on which much of the success in the working of these buildings depends. The heating and ventilation, hot water-service, cold-water supply, and pumping works, lighting, and fitting up of the building with laundry machinery, cooking plant, bells, telephones, fire alarms, and tell-tale clocks would form subject-matter for a paper in themselves. The tell-tale clock is used as a check against the peripatetic night attendant, who, as he makes his rounds, has to mark his progress through each ward or room by inserting a key into the station-box, and this by electric contact marks the hour and station on the drum of the clock in the medical superintendent's office. In the morning the paper is removed from the clock-drum, and shows a complete record of the attendant's journeyings throughout the night.

In my asylums I generate heat and power for all purposes at one central station—indeed, in several old asylums, where I have had to rearrange the engineering works, I have done away with half-a-dozen or more different stoking points and brought all to one centre, where boilers are provided for all purposes, comprising heating, hot-water supply, cooking, laundry work, pumping, and electric lighting. The supervision and stoking, as well as fuel, are thus materially economised.

The boilers may be worked at a pressure varying from 80 to 120 lb. to the square inch, quite sufficient for the simple form of engines used in asylum lighting. For heating the buildings I use low-pressure steam, reducing it at its entrance to each ward to about 5 lb. by reducing valves. If the exhaust steam from the engines is utilised in the heating system, the pressure must be reduced at the boiler-house.

We are beginning to learn from our transatlantic cousins that we *can* utilise our exhaust steam in this way with economy; but when I first attempted it eight or ten years ago it was not without considerable opposition from engineers, who feared the back pressure on the engines. If it cannot be used in heating the building it can always be utilised in heating bath water—anything rather than the extravagant waste of several thousand pounds of steam discharged hourly into the atmosphere.

I am afraid I cannot now discuss the merits of the various systems of heating—hot-water, steam, plenum, &c.—but having tried most of them I am still of opinion that when the conditions are favourable and the soil a dry one, holding no water, the plenum has advantages over other systems, particularly in the absence of steam pipes and radiators in the wards, which are always liable to leakage and at all times require attention and repair, involving the presence of workmen in the wards, which, particularly on the women's side, is very objection-

able. As a general rule where power is required at a distance from the boiler-house, such as for driving machinery in the laundry or fans in the kitchen, electricity may be used, but in the case of pumping water, where power is required regularly for eight or nine hours a day, it is better to sink the well near to the engine-house and use steam engines. The engineer will generally be in or near the engine or boiler-house, and can keep an eye on the pumping engines. Moreover, it is not always desirable to run the dynamos all day for generating electricity to work motors, nor to take heavy currents off the batteries, unless the latter are exceptionally large, and consequently very costly. The bells, telephones, and tell-tales are generally worked from their separate batteries, and call for no comment, but these fittings at a modern asylum are often very extensive. At one of my recent asylums there are sixty-two telephone sets, in addition to the central exchange, and sixty-four stations for "tell-tale" clocks, besides 140 points at which an alarm for fire can be given.

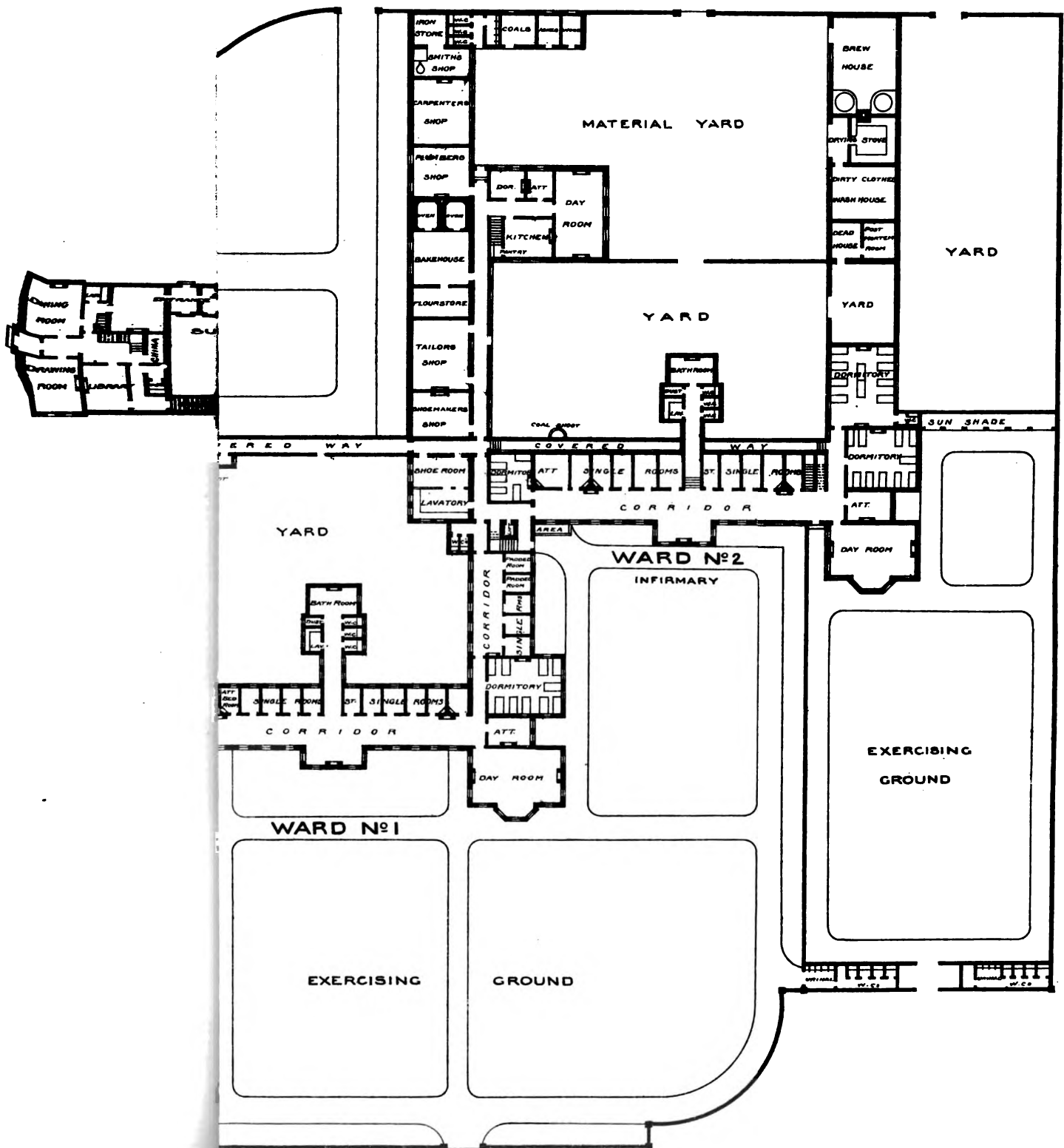
I must not, I assume, conclude without saying a word about the cost of asylums, but in talking to architects I can imagine their suggesting that this is "quite unnecessary." When speaking of the "cost per bed" of asylums there is much confusion, inasmuch as everything depends on what is included in the cost. Some people include the cost of the site as well as the buildings, some add the cost of planting and laying out the ground, while many take site, grounds, buildings, fittings, furniture, implements—in fact, everything, and even add a first suit of clothes for the patients.

Speaking as an architect, I always decline to include in my estimates the cost of any work for which I am not responsible, and limit them to the buildings, engineering works, my own commission, and sometimes, if so instructed, the roads on the estate; and on this basis I contend that a well-built asylum, designed on liberal principles and fitted with all modern appliances, cannot be erected for much less than £300 a bed. The two last estimates I made work out each at £290 a bed for the asylum when completed, but more in the first instance, when the patients' accommodation is considerably less than the administrative buildings will allow for. Twenty-five years ago Nottingham Borough Asylum cost £170 a bed, or little more than half what it would cost to-day. Claybury cost £227 a bed for the number for which it was built, viz. 2,050, but only £188 if calculated on the number of patients now housed there. But that the increased cost is not out of proportion to that of other building works is shown in the Report of the Metropolitan Commissioners, before referred to, where the cost of fifteen asylums erected before the year 1845 is given, and including land and furniture, some of them even then approached £300 a bed and showed an average on the whole number of £200 a bed.

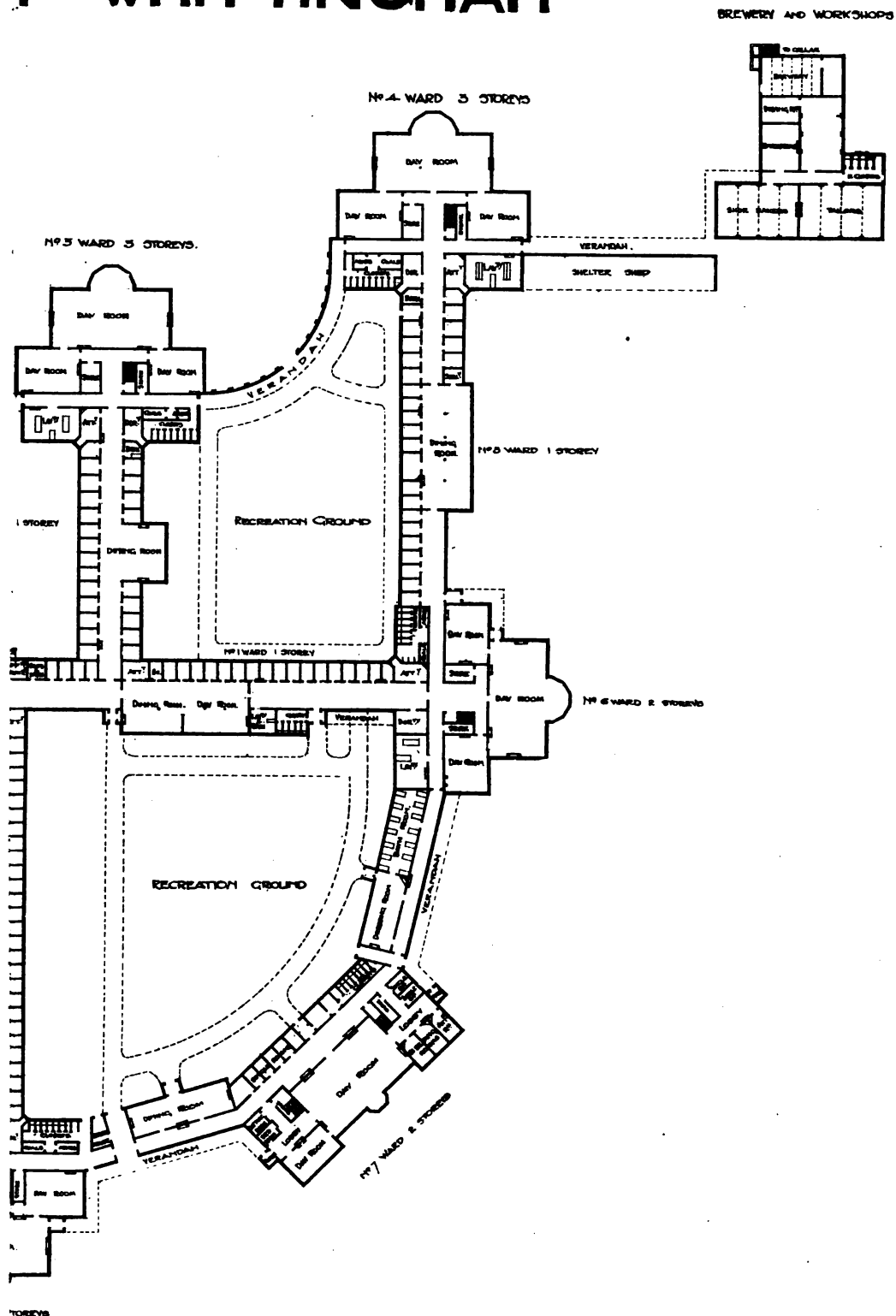
Dr. Conolly gives the cost of twenty-two asylums—including eight in Ireland and Scotland—which were erected before the publication of his book in 1847, of which the average cost of the buildings and furnishing, without the land, was £154 a bed. He goes on to add that "this is probably more than will be found necessary in most future asylums," and I think I may say half a century later that the increase of less than a hundred per cent. in the cost is no more than normal.

In concluding my reference to the cost of asylums I would express an earnest hope that, large as this outlay undoubtedly is, our asylum authorities will see the wisdom of allowing it in all cases where a judicious expenditure will assist in checking the growth of this terrible malady.

TY ASYLUM.



1 WHITTINGHAM

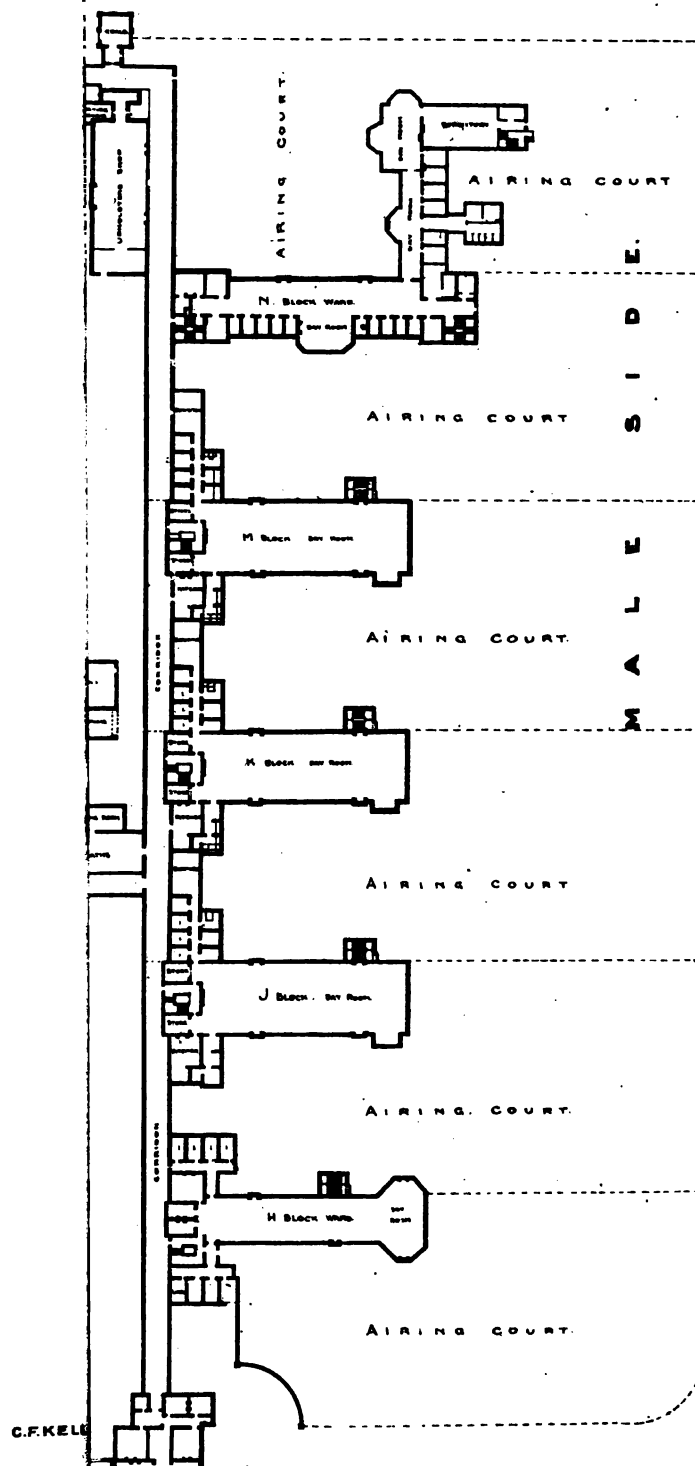


GROUND PLAN

LONDON COUNTY. LUNATIC ASYLUM.

BANSTEAD.

1877.

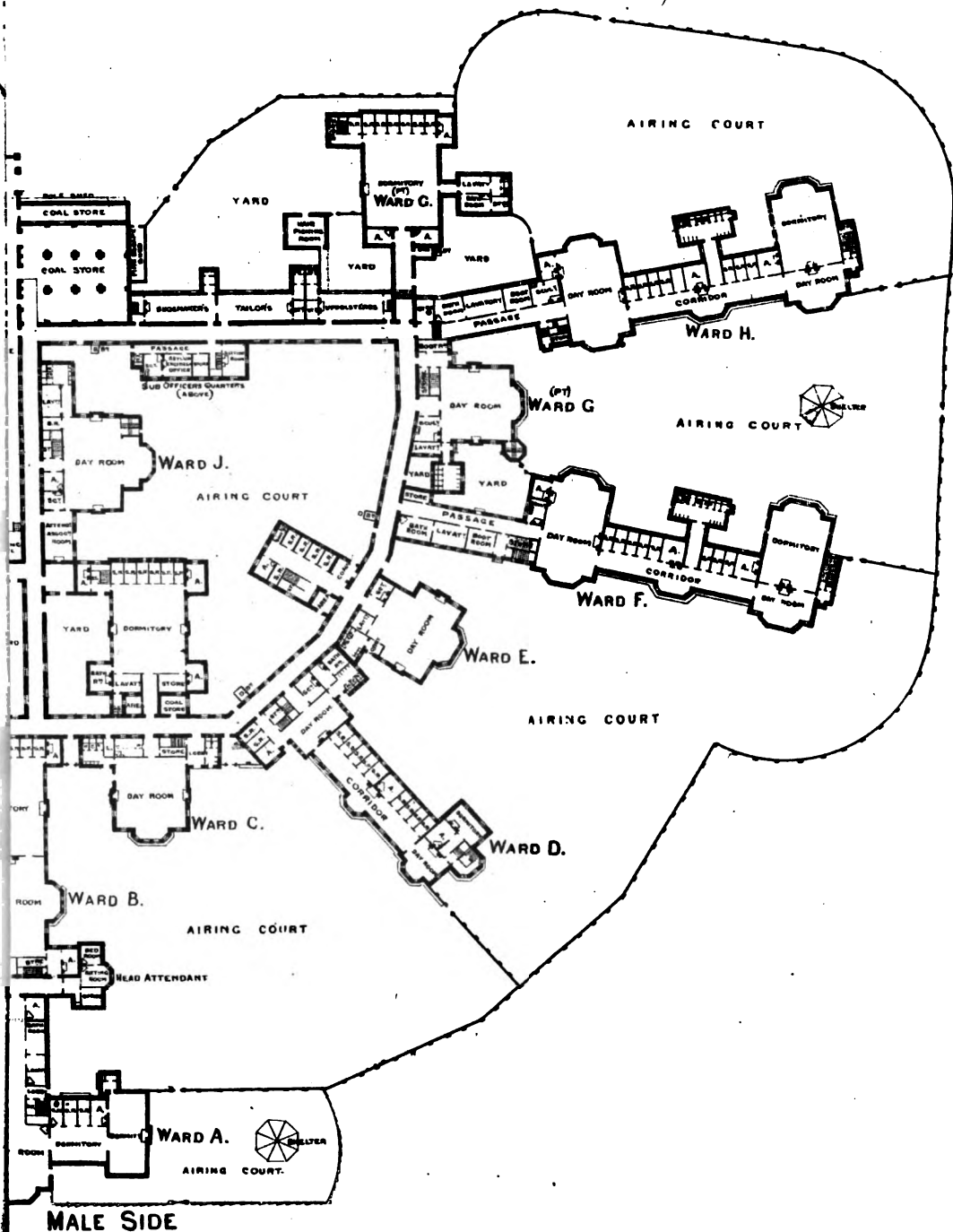


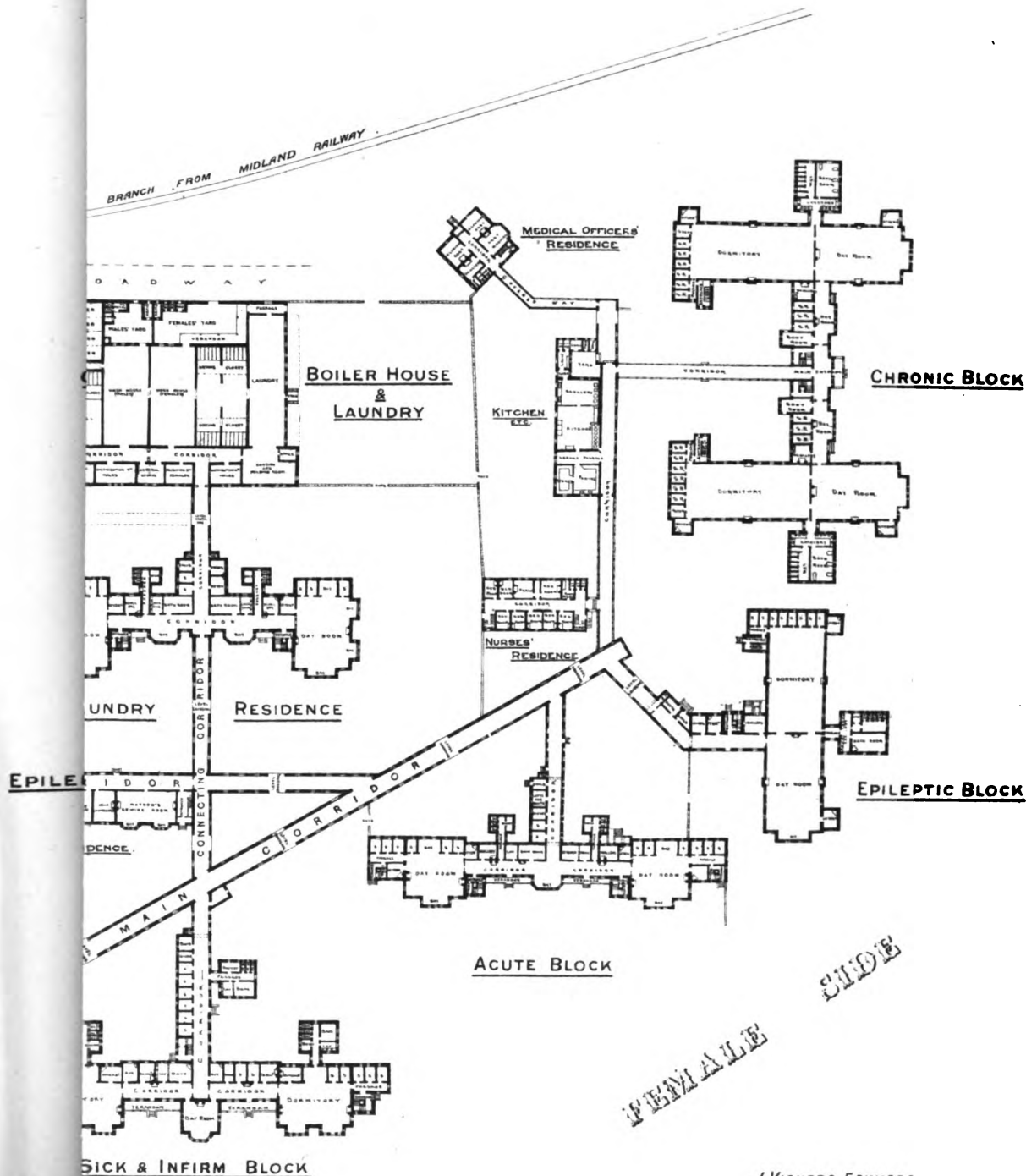
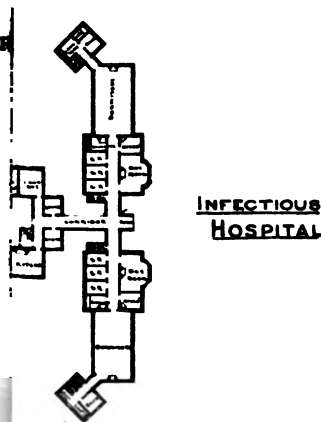
W.H. POWNALL.
Architect.

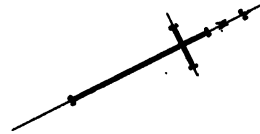
COUNTY ASYLUM NE HILL.

OF MAIN BUILDINGS.

1883.

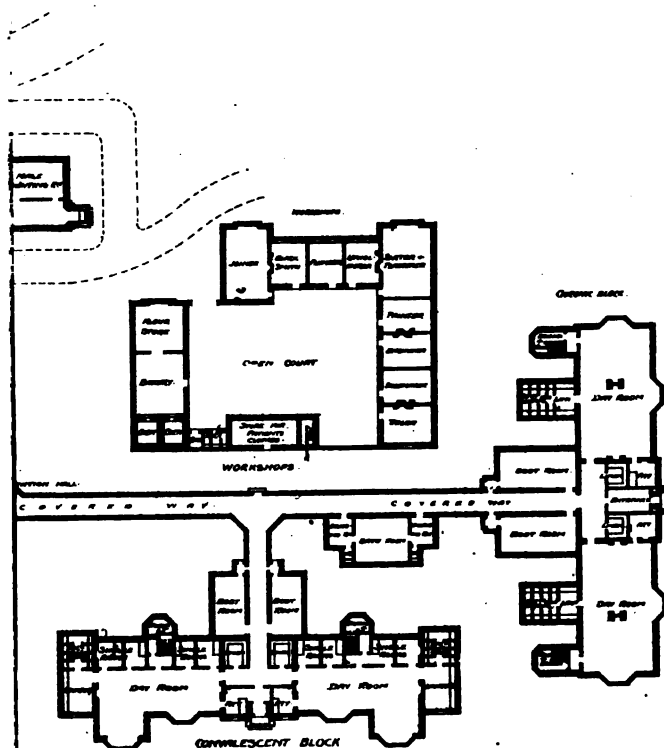




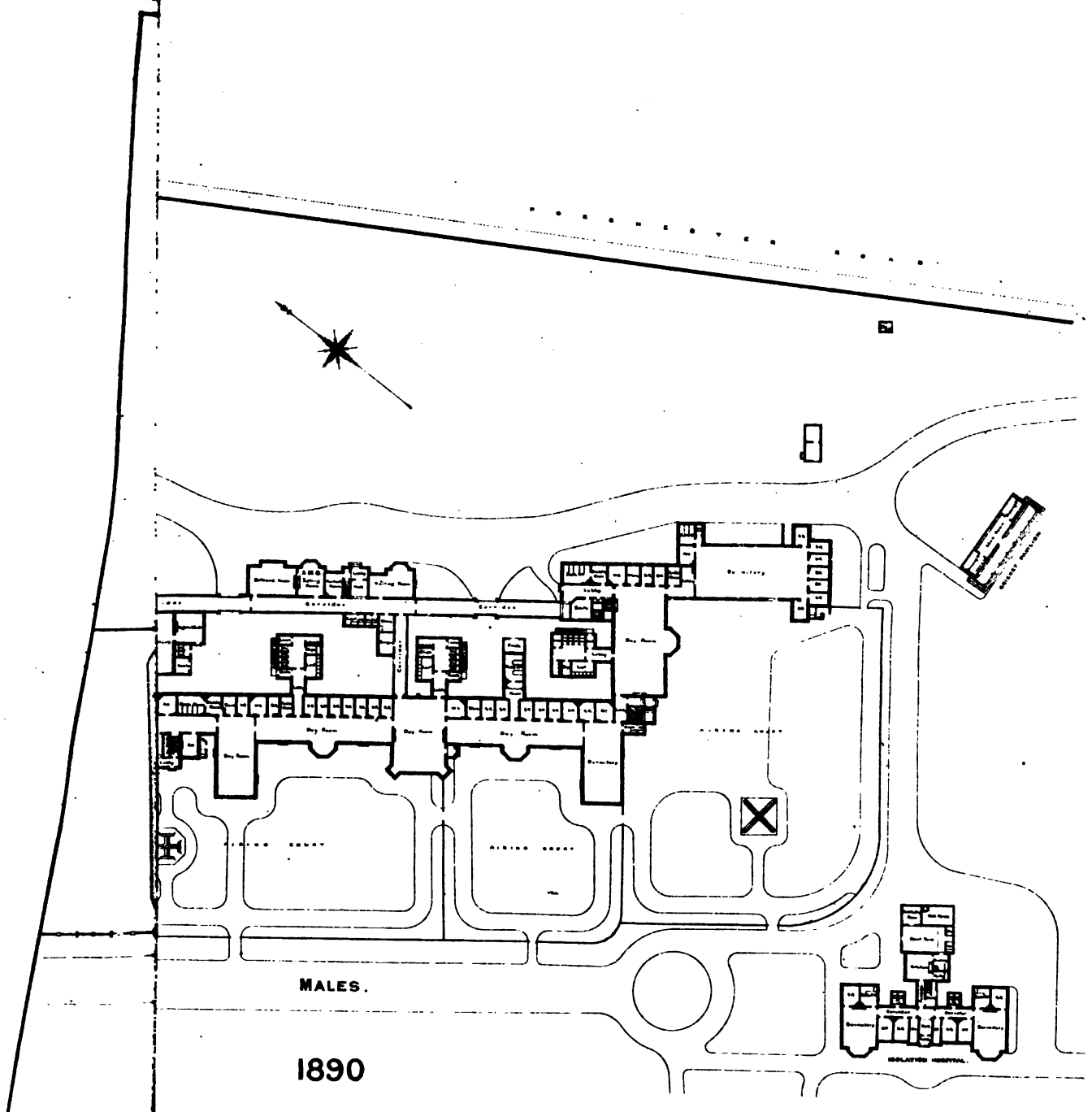


1896
GARTLOCK ASYLUM
FOR THE
GLASGOW DISTRICT BOARD
FOR LUNACY.

SCALE ABOUT 80 FEET TO ONE INCH



MESSRS THOMSON AND SANDILANDS.
Architects.



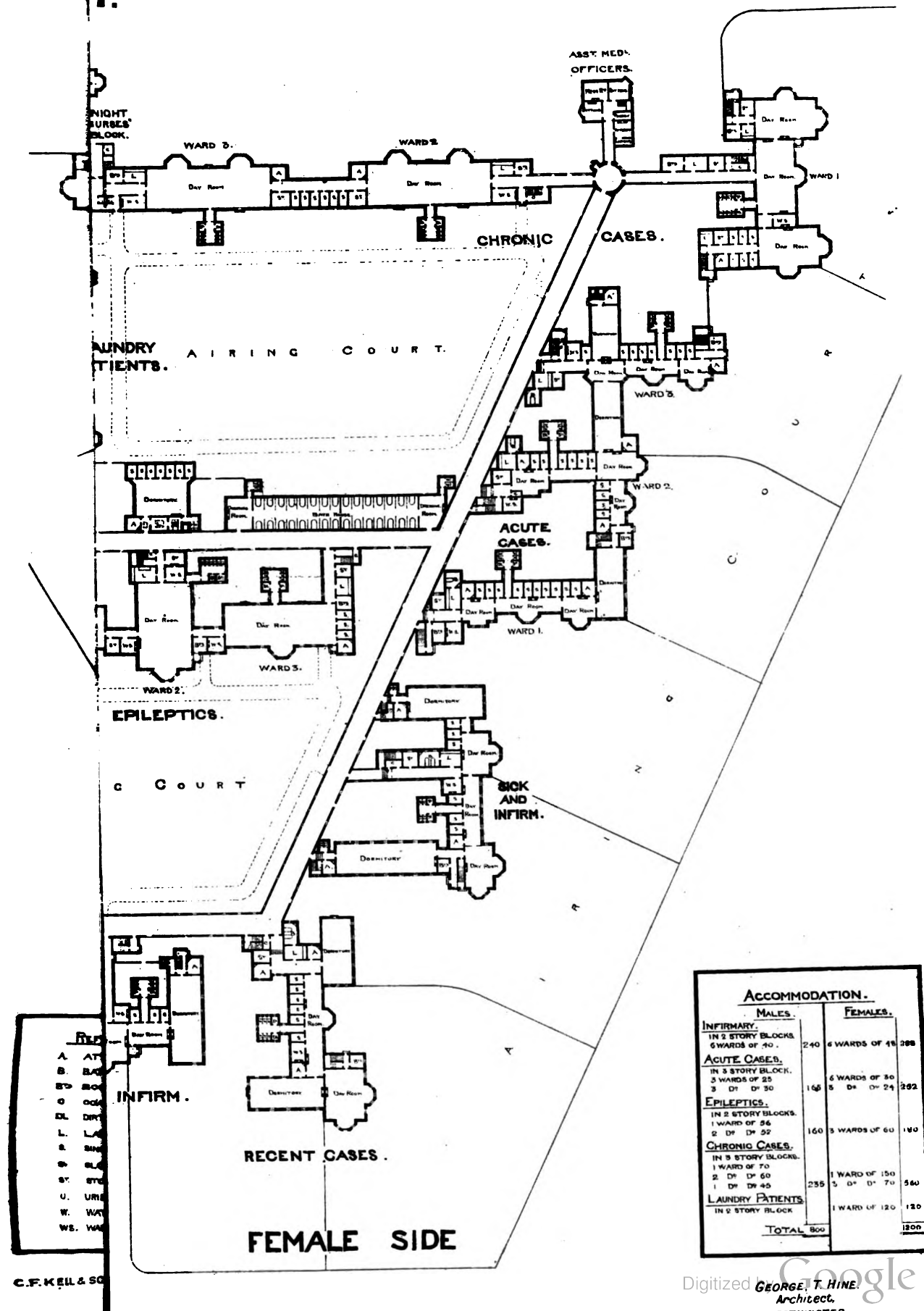
MALES.

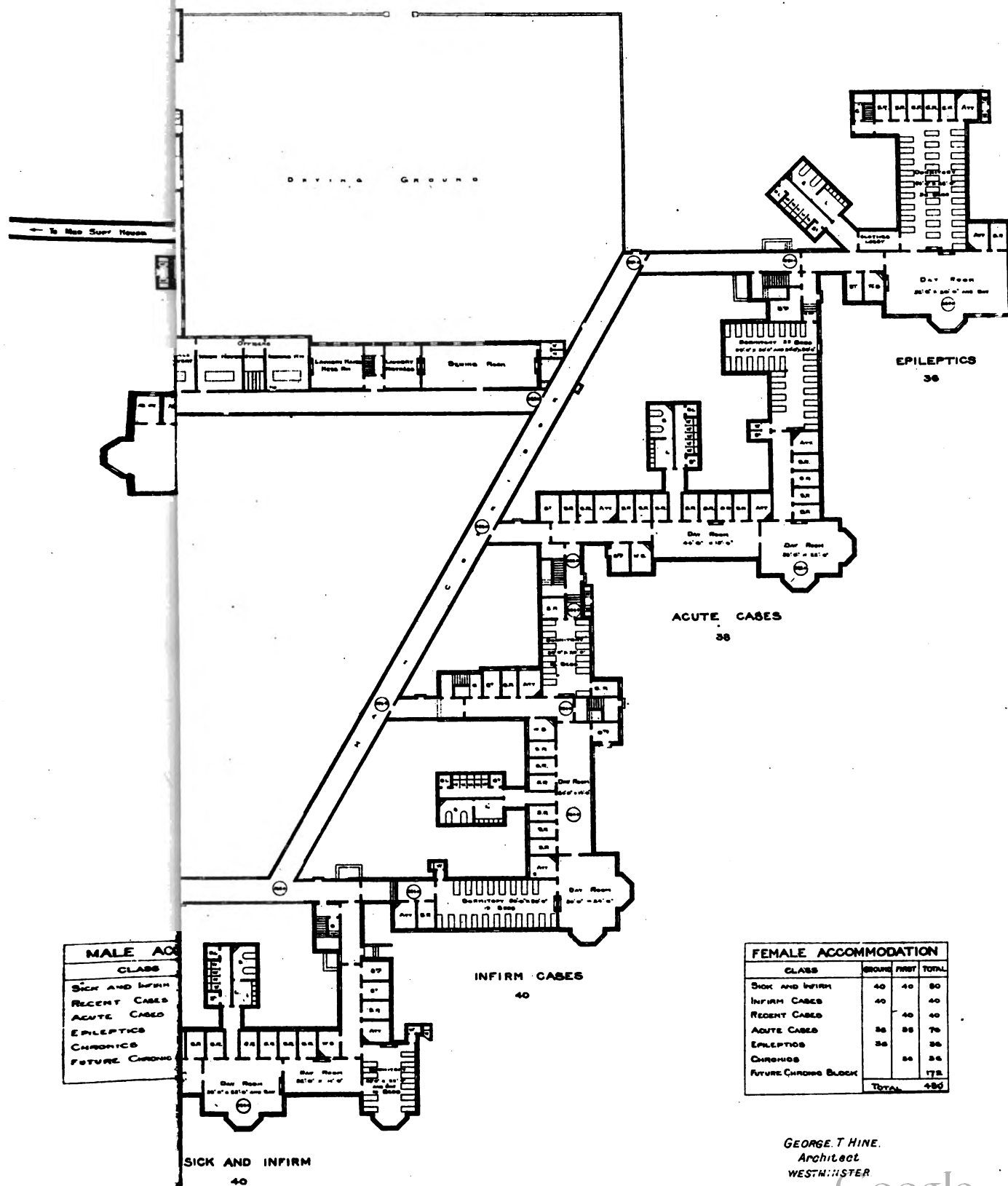
1890

LUNATIC ASYLUM.

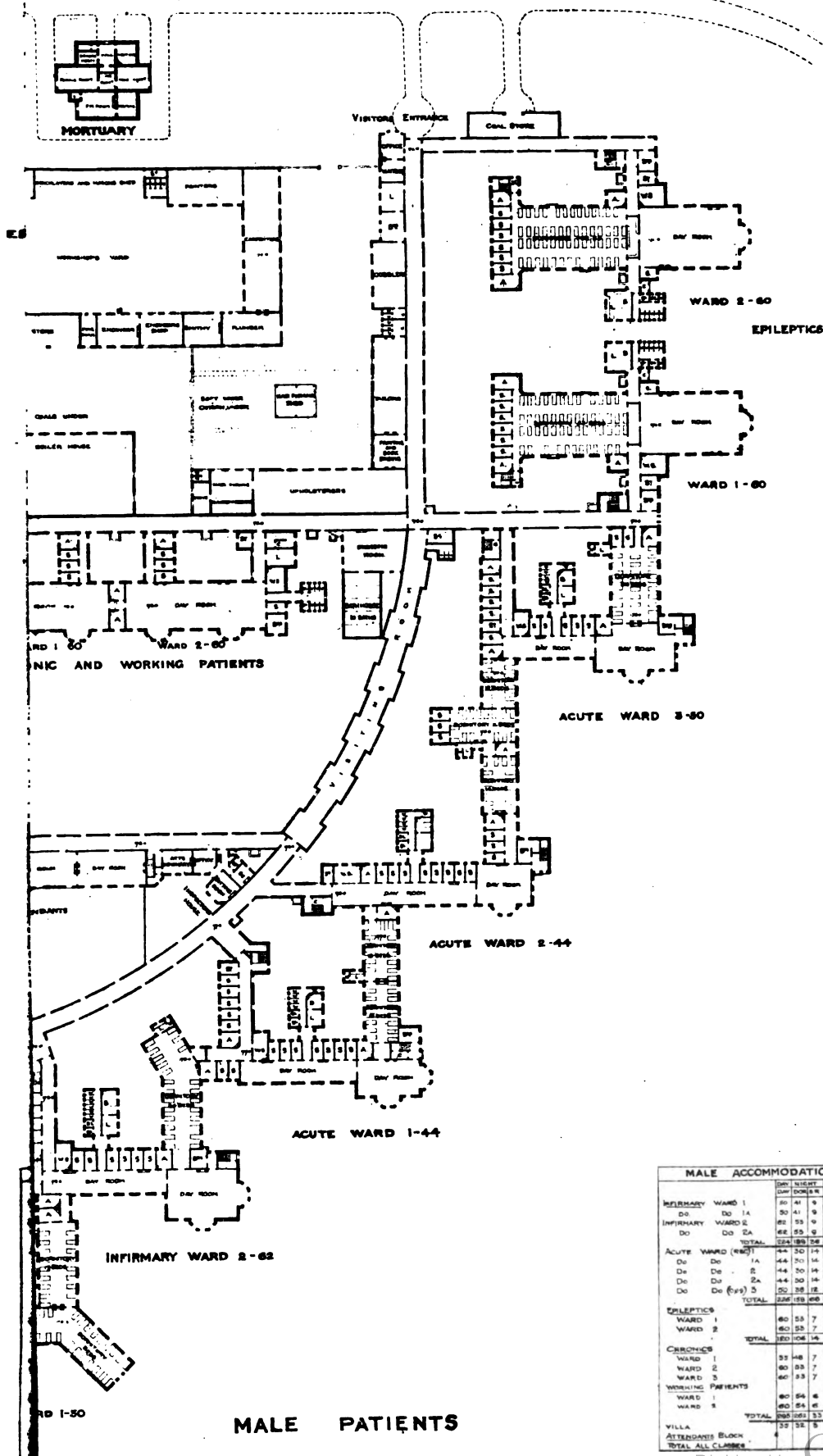
GEORGE T. HINE.
Architect,
WESTMINSTER.

C. F. KELL & SON, L.

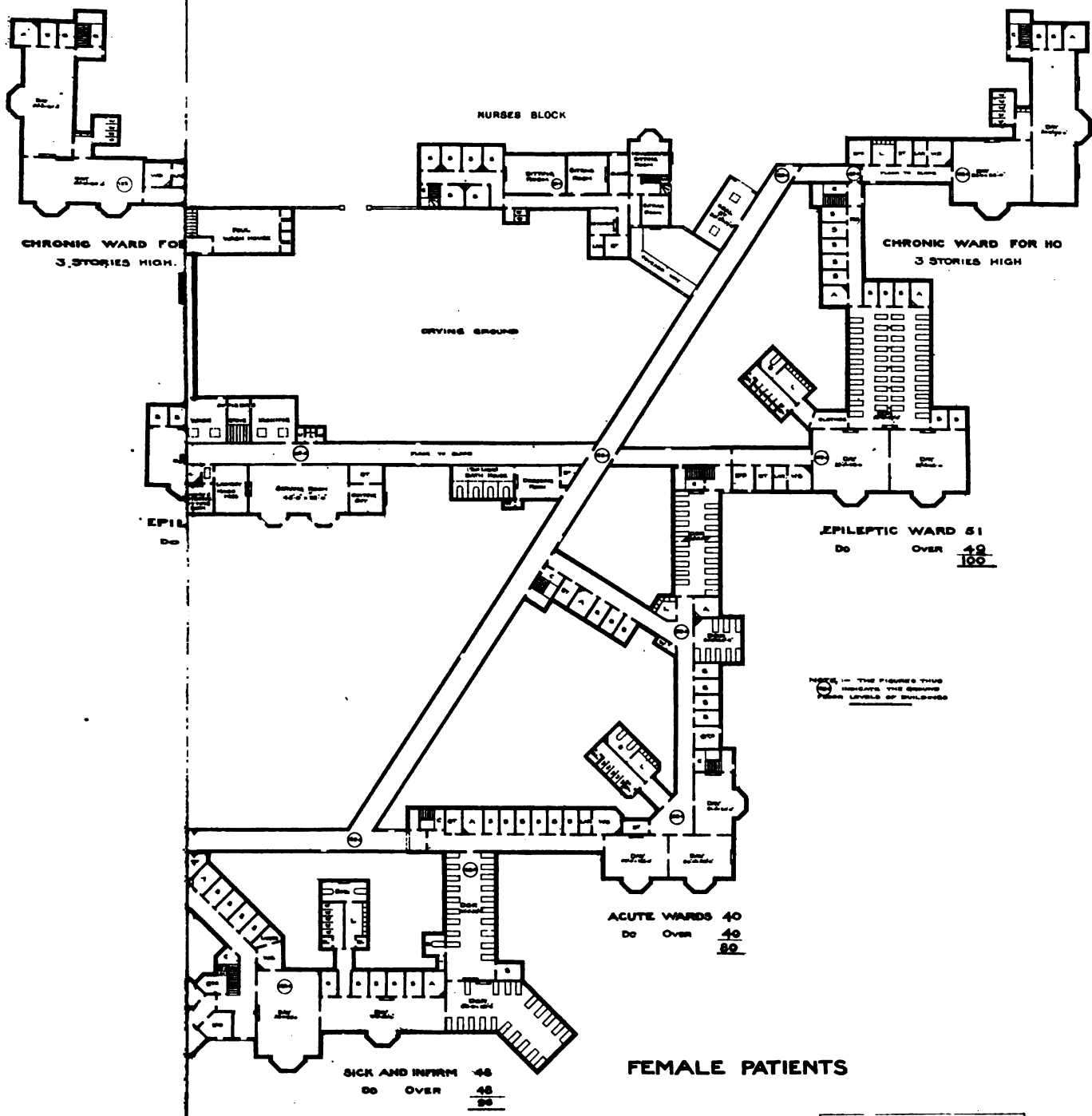




REY.

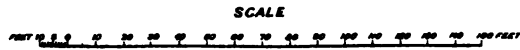


MALE ACCOMMODATION									
		DAY	NIGHT						
		DO	DO	DO	DO	DO	DO	DO	DO
INFIRMARY	WARD 1	30	41	9	30	4			
DO	DO 1A	30	41	9	30	4			
INFIRMARY	WARD 2	82	53	9	82	4			
DO	DO 2A	82	53	9	82	4			
	TOTAL	142	135	27	142	8			
ACUTE	WARD (80)	44	30	14	44	3			
DO	DO 1A	44	30	14	44	3			
DO	DO 2	44	30	14	44	3			
DO	DO 2A	44	30	14	44	3			
DO	DO (80) 3	50	38	18	50	4			
	TOTAL	226	158	68	226	10			
EPILEPTICS	WARD 1	60	53	7	60	3			
WARD 2	60	53	7	60	3				
	TOTAL	120	106	14	120	6			
CHRONICS	WARD 1	33	48	7	33	4			
WARD 2	30	33	7	30	3				
WARD 3	30	33	7	30	3				
WORKING PATIENTS	WARD 1	80	54	6	80	4			
WARD 2	80	54	6	80	4				
	TOTAL	160	108	12	160	8			
VILLA	ATTENDANTS BLOCK	32	32	5	32	2			
	TOTAL ALL CLASSES	488	333	89	488	24			



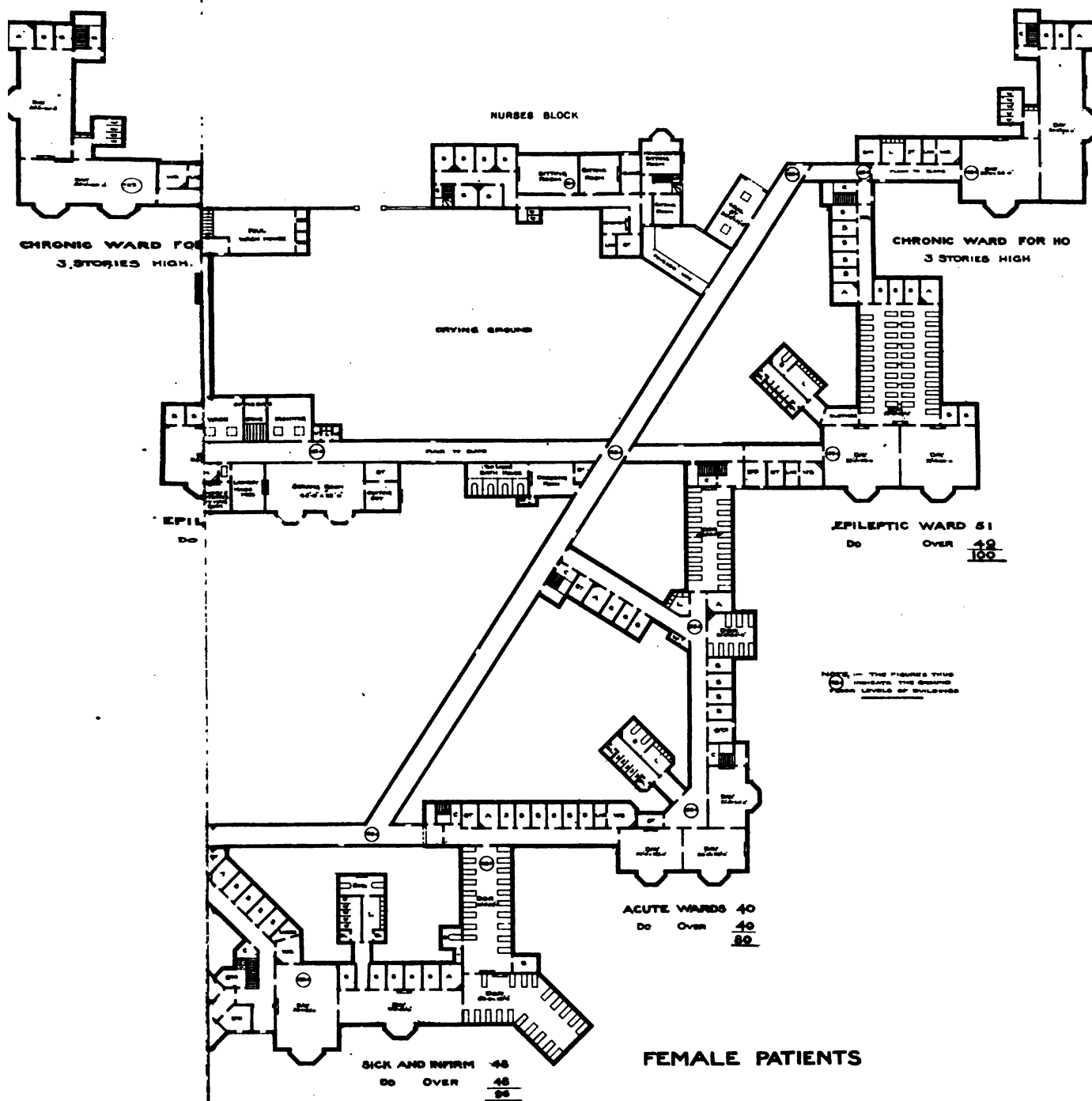
NOTE: - THE FIGURES THIS
DO INDICATE THE GROUND
FLOOR LEVELS OF BUILDINGS

REFERENCE	SYMBOL
S - SINGLE ROOM	□
2nd BOUT ROOM	□
L - LUNACY	□
W - WARD SEVERALTY	□
BY SHOW	□
A - ATTENDANT	□



ACCOMMODATION			
	MALES	FEMALE	TOTAL
HOSPITAL WARDS	60	70	130
SICK AND INFIRM	70	80	150
PRESENT AND ACUTE	60	60	120
EPILEPTICS	60	100	160
CHRONICS	20	110	130
TOTAL MAIN ASYLUM	380	460	840
ACUTE HOSPITAL	30	60	90
WILLARD	60	60	120
IGIST BLOCK			60
TOTAL 1100			

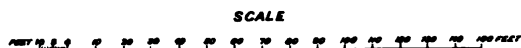
GEORGE, T. HINE.
Architect.
WESTMINSTER



FEMALE PATIENTS

REFERENCE TABLE

S - SHOWER ROOM	S
3rd Bath Room	3B
L - LAUNDRY	L
W - WARD BATTERY	W
BY - STORE	BY
A - ATTENDANT	A



	ACCOMMODATION		
	MALES	FEMALES	TOTAL
HOSPITAL WARDS	60	74	134
SICK AND INFIRM	70	90	160
ACUTE AND CHRONIC	80	80	160
EPILEPTICS	80	80	160
CHRONICS	80	110	190
WALL HALL ASYLUM	300	100	400
ACUTE HOSPITAL	30	80	110
4 VILLAS	60	60	120
1000 BLOCK			60
TOTAL			1100

GEORGE T. HINE.
Architect.
WESTMINSTER

DISCUSSION OF MR. HINE'S PAPER.

Mr. E. A. GRUNING, *Vice-President*, in the Chair.

MR. EDWARD MARRIOTT COOKE, M.B., one of His Majesty's Commissioners in Lunacy, who rose at the invitation of the Chairman, proposed a very cordial vote of thanks to Mr. Hine for his learned and valuable Paper. He also desired to tender his thanks to the Council for their hospitality that evening, and for giving him the opportunity of hearing Mr. Hine's most interesting lecture. He assured the Meeting that it was with very great regret that the other members of the Lunacy Board were prevented by circumstances beyond their control from availing themselves of the kind invitation they had received to be present at the Meeting. No one who had watched, as he had done for the last thirty years, the evolution of our public asylums, could fail to appreciate how much the public were indebted to the architectural profession, and in particular to the author of the Paper read that evening, for the present excellence of the accommodation provided for the insane poor. It had sometimes been said that the Commissioners and others connected with asylums had been working too much in a groove; that in the matter of planning and construction of their asylums they were behind other countries, notably Germany; and especially they were criticised for their slowness to adopt the cottage style of building in lieu of the usual institutional type. But he ventured to think that they had been wise in hesitating to adopt too hurriedly any great change in the principles of asylum construction. It must be borne in mind that many of the so-called lunatics in German asylums—and he had noted it from personal observation—were cases of so mild a type that in this country they would not be considered suitable cases for asylum treatment, but would be dealt with in workhouses or would remain in their own homes. It followed, therefore, that what had been found to answer in an asylum like Alt Scherbitz, where the colony or cottage system was largely in vogue, would not necessarily answer in this country. He favoured having in all asylums of any size a separate detached building, or hospital as Mr. Hine described it, for the segregation and special treatment of all recent cases which presented any prospect of cure; but he did not by any means agree with the idea of locating in scattered villas all, or nearly all, the chronic cases of an asylum. Such a plan he was convinced must add to the difficulties of administration and supervision, and tend largely to increase the cost of maintenance. There were, no doubt, in every

asylum a certain number of well-behaved chronic lunatics, though he should say certainly not more than ten per cent., whose lives could be rendered happier by residence in buildings more approaching their own homes, and for them detached cottages might be built; but he was of opinion that the great bulk of the chronic cases should continue to be treated in a large main building. One of the greatest steps in the advance of modern construction had been the splitting up of the acute wards, in which the noisy violent cases were located, as in the case of the Hellingly Asylum, where the acute ward had been very wisely divided into three small rooms, so that the number of patients in each must be comparatively small. Such a system must tend to reduce excitement and prevent difficulty among the patients. He should like to suggest their spending a little more attention upon the single rooms; in many of the old asylums such rooms were badly ventilated, badly lighted, and badly warmed. The single rooms were of course occupied by the noisy violent patients, who were very degraded in their habits, and it was most essential that there should be no corner, no cracks, and no flues where any filth could lodge. Mr. Hine had indicated a preference for the plenum system of heating wherever it could be adopted. His own experience inclined him to favour steam coils, and, wherever it was possible, to abolish flues in asylum construction. Many of the patients had very disagreeable habits, and, although architects might do their best to place these flues in such positions that they could be cleaned out, as a matter of fact they were not cleaned out, and sooner or later they became receptacles for dust, dirt, and rubbish. Another point he thought hardly enough attention was paid to—viz., the size of the airing courts. He knew of more than one instance where the design of the asylum was very good, but it had been built in such a position that the airing courts were terribly cramped, and when the patients were turned out of doors they were all huddled together. Again, the aspect of the airing courts, as a rule, was very bad—and not only that, but, instead of giving them as little as possible of a prison-like aspect, they were surrounded by most objectionable high fences, composed of massive iron railings, in some instances as much as 7 feet 6 inches high. In some of the earlier asylums much more attention was paid to the airing courts, and years ago it was usually the rule for the boundary fence to be walls sunk in ha-has,

D D

and he thought there could be no better plan. In a Paper like Mr. Hine's, where there was such a vast amount of interest collected, it was impossible to criticise every point; but he was sure that no one could have heard it without having learned a good deal, and they were all much indebted to Mr. Hine for the great pains he must have taken in preparing it.

Dr. URQUHART (Perth) said he had very much pleasure in seconding the vote of thanks. The doctors who practised in these asylums had a very warm regard for Mr. Hine, and held him in high honour. Mr. Hine had been for some time an honorary member of the Medico-Psychological Association, and was associated with many of its members in his ideas, and in leading the way in this branch of architectural work. The Medico-Psychological Association granted its honorary membership for good work done for the benefit of the insane, and members of the Association, in putting Mr. Hine's name forward, felt that there was nobody in this country who was more worthy of that honour than he was. Mr. Hine in his Paper had been extremely modest about his own work, and had not said the things that those who knew the value of his work would desire to say about him. In particular, an instance occurred to him in connection with the great Claybury Asylum. When that site was fixed upon, it was an extremely difficult site, and the architects who entered into the competition viewed it with a considerable amount of dismay. The hole at the top of the hill was some 30 feet deep, and it required a great deal of consideration and a good deal of time before the problem was solved by the cutting of the Gordian knot which Mr. Hine described in his Paper. It seemed a very simple thing to cut off the top of the hill, and fill up the hole, but it did not occur even to Mr. Hine till after a good many weeks of study on that occasion. But even Claybury now was getting old-fashioned. They had gone from the West Riding, the Wakefield Asylum, which was extremely interesting to all architects as one of the very earliest of the planned asylums—planned by the architect in conjunction with a man who had practical experience of the insane, viz. the late Samuel Tuke, of the Yorkshire Retreat. This asylum had become the model of many asylums in this country. It was at the time a very great advance upon what England had previously known, and although it was faulty in many respects, still it embodied the germ of the notion that Mr. Hine had developed in the East Sussex Asylum; and if any architect was desirous of knowing the best and the latest that had been done with regard to asylum architecture it would be well worth his while to study the details of the East Sussex Asylum. As regards American asylums,

perhaps the best was the St. Lawrence State Asylum, which was a collection of small asylums accommodating some 300 or 400 patients each. The cost of the asylum was enormous, and it had not been imitated in America since. In Scotland the process of devolution had gone further: the Edinburgh Parish Asylum was now cast into the melting-pot, the ratepayers were up in arms, and it was hardly known whether these cottages, charming villas, with a village church, a hall, and reading-rooms, and such things, were to come out right side up or not. Further north, in Aberdeen, the Aberdeen Parish Council had, through Mr. Marshall Mackenzie, decided to have their new asylum built entirely on the segregated principle; and one of the questions of considerable moment there was that raised by Mr. Hine as to heating. They had decided to heat all the separate little houses, each apart by itself, by a single stoke-hole. Mr. Hine had told them that he gathered these various stoke-holes together, so far as he could, in the asylums with which he had dealt. It reminded him of a system he had recently heard of as in adoption in a small town called Williamsfort, in Pennsylvania, where practically the whole town was heated by steam from central boilers, and the inhabitants were charged so much upon the rateable value of their houses. When the inhabitants of this town want a bath, or soup, or anything of that sort, they had but to turn on the steam and their wants were immediately supplied! We moved more slowly on this side of the Atlantic, but that no doubt would come, and Mr. Hine having inaugurated it in the asylum world, it would probably spread to the sane population later on.

Mr. CLIFFORD SMITH, A.M.I.C.E., said that as Mr. Hine had kindly made reference to engineering skill in connection with asylums, and as it had been his good fortune to be associated with Mr. Hine at Claybury, the Heath, and Horton Asylums, he might perhaps make a few remarks. He would like to say, in connection with the temporary buildings referred to, that he had also had the good fortune to meet Mr. Hine thereon in his capacity as Consulting Architect to the Commissioners of Lunacy. These buildings, he knew, were not altogether beloved of architects, seeing that they were built of galvanised iron. Yet the great feature in constructing temporary buildings was not so much to save money as to get speed of construction. His Committee wished to get buildings rapidly, and the only way that buildings could be got rapidly was to put up those that could be speedily constructed, and done without very special preparation of plans; and as a consequence the ratepayers spent £173,000—at the rate of £100 a bed. Therefore, though they were comparatively costly, yet for the reason that the London County Council wanted them, they were cheaper

at the time, because they accommodated people who otherwise would have been sent out of London at greater expense, and thus the temporary buildings served their purpose. With regard to the question of asylums, he had frequent occasion to visit one of the more ancient asylums belonging to the London County Council—Hanwell to wit, before it was brought up to the modern standard. And he must say that he never went from Hanwell to Claybury in those days without being struck with the charming difference in favour of Claybury. The difference was so very marked and the advantage so very patent that nobody with a trained eye, or even without a trained eye, could fail to appreciate the improvement that had taken place during the period that had elapsed from the time the Hanwell asylum was built, 1851, till the building of Claybury in 1887. The difference was most marked, and the advantages to the people were as great. Again, an asylum well designed was more cheaply maintained; heating, electric lighting, cooking, laundry-work, hot-water service—all these points represented hard cash, and he was bound to say that Mr. Hine had given them in these respects the greatest advantage that they could get in their modern asylums in comparison with the ancient ones. With a central boiler-house, and the whole arrangements radiating therefrom, they got the maximum result with a reduction in expenditure for working. With an asylum accommodating 2,000 patients they had to write off one and a half to two tons of coal per patient per annum, and it would be seen at once that if they could by any possibility increase the production from a pound of coal when the coal bill reached perhaps 4,000 tons a year—if they could get another half-pound of water raised per pound of coal—there must be a gain; and at Claybury they had all these benefits, and they would show a further improvement at the Heath Asylum. Mr. Hine, however, had rather surprised him when he stated just now that while he advocated the use of a central boiler-house, and the utilisation of exhaust steam, yet at the same time he did not think electricity should be used for driving the deep-well pumping machinery. He thought Mr. Hine had concealed that secret very well. He had heard it to-night for the first time. It showed how considerate he was to those who were called upon to work with him, when he had allowed him (the speaker) to have his own way at the Heath Asylum in that particular respect. It was probable, however, that they would be able to make a comparison between the arrangement Mr. Hine proposed to adopt in his new asylum and the arrangement they had adopted at the Heath Asylum. With regard to heating, Mr. Hine advocated the plenum system where suitable, and Dr. Marriott Cooke spoke of steam heating without flues. His experience was—and he

had to deal with seven of the London Council Asylums, where they had installed almost every type of heating—high-pressure water, low-pressure water, the plenum system, the semi-plenum system, low-pressure steam, and medium-pressure steam—that the low-pressure steam arrangement, with radiators having fresh-air inlets from the outer walls led direct to them, and with proper outlets for vitiated air provided, gave the best results, the condition being always established that too high a pressure of steam is not maintained in the radiators, to “burn the air,” if he might use that expression. He found that if they did not exceed 205 degrees in these radiators they got very satisfactory results, provided there was a proper fresh-air inlet to each. He was very glad to have had the opportunity of speaking on the subject.

MR. GORDON SMITH [F.], who was called on by the Chairman, said he could not profess to special knowledge of asylum planning. Looking at some of the plans exhibited they suggested almost a grotesque idea of planning. He felt particularly puzzled about the question of aspect. What appeared right on one side for aspect must be, as it seemed to him, more or less wrong on the other. [The speaker indicated various aspects on the same set of plans to explain his criticism.] Another point that surprised him was the construction of the broad wards for four rows of beds shown on the plans of a brand-new asylum. That form of ward had been absolutely condemned as far back as 1867 by the Select Committee appointed to consider the question of cubic space in Metropolitan Workhouses. Their conclusions were published in a Blue Book known as the “Cubic Space Report.” The Local Government Board had for some years refused to sanction such wards in Poor Law buildings; and yet in asylums these wards were now being built with the assent of another Department of Government! Again, he did not understand why the isolation hospital of a lunatic asylum should be different in principle from that of an ordinary village community or town. On some of the plans there seemed to be no arrangement for isolating one infectious disease from another. Doubtless it was not so necessary in a lunatic asylum where the officials had absolute control over all the inmates, and there was little chance of their contracting infectious diseases; but the arrangement was very different from that advocated in the Local Government Board Memorandum on isolation hospitals.

MR. HINE, having responded to the vote of thanks, replied on some of the points raised during the discussion. He quite agreed with Dr. Cooke's suggestion that more attention should be given to single rooms; but when it was considered that a fourth or a fifth of the whole number of patients in an asylum occupied single rooms, it

would be seen that great increase in the space must be required, and the difficulty of planning would be greater, as would also be the cost of the single rooms when enlarged. Architects who knew the great cost of building asylums shrank from adding largely to the expenditure, as they would do if they increased the size of so many rooms. With regard to the statement that he was in favour of the plenum system of heating, he was afraid the words he used were a little misleading. He said that there were advantages in the plenum system over others, and he thought there were; but there were also great disadvantages. If they could get the plenum system without its disadvantages, he should say it would be quite an ideal system! Perhaps he might refute the suggestion best by stating that he had designed eight asylums since the one referred to, and in not one of these had he adopted the plenum system of warming. With regard to the question of aspect referred to by Mr. Gordon Smith, he should be glad if Mr. Smith would suggest how they could get a perfect aspect to every ward. No doubt, if the asylum could be extended all over the country a perfect aspect might be secured. But it must be remembered that each block must be brought within reasonable distance of the administrative centre, and one could only give the best aspect possible under the circumstances. As a rule, the best aspect is given to the day-rooms of the patients. Mr. Gordon Smith

had also called attention to the dormitories with three or four rows of beds. In hospital wards and wards where patients were in bed in the daytime, it was never usual to construct them with more than a double row of beds. In wards which required supervision at night it was necessary to arrange the beds for a large number of patients within hearing and sight of the attendant, and it was sometimes necessary, particularly in epileptic wards, to have three and sometimes four rows of beds in a dormitory, to secure proper supervision. Mr. Gordon Smith, in his remarks about the isolation hospital, must have been confusing the acute hospital with the isolation hospital. He had not shown a plan of an isolation hospital, but each asylum had a small hospital for infectious diseases, where such cases could be isolated. They were constructed very much on the lines of the Local Government Board's isolation hospitals.

* * Mr. Hine's Paper was read to the Meeting by Dr. Hayes Newington, whose services in connection with the planning of the new East Sussex Asylum at Hellingly are referred to on page 175. At the close of the Meeting the Chairman expressed the members' appreciation of the trouble Dr. Newington had taken on their behalf, and of his admirable delivery of the Paper, and having moved a Vote of Thanks to him, the motion was agreed to by acclamation.



9, CONDUIT STREET, LONDON, W., 23rd Feb. 1901.

CHRONICLE.

Her late Majesty Queen Victoria.

There was a good attendance of members and visitors at last Monday's meeting, which was the first held since the death of her late Majesty. Among the visitors were members of the medical profession, specialists in lunacy cases, and consequently interested in the subject brought forward by Mr. Hine. In the absence of the President, who was suffering from temporary indisposition, the Chair was taken by Mr. E. A. Gruning, *Vice-President*. Part of the business on the agenda, that relating to the election of members, belonged to the meeting originally arranged for the 4th inst., but postponed on account of the national bereavement. The proceedings opened with an Address to Members from the President, which the Secretary stated he had been officially commissioned to read personally to the Meeting. The Address, which was received in respectful silence, the whole audience standing, was as follows:

GENTLEMEN,—I must ask you all to rise for a moment as a tribute of respect to our late great Queen. Since last we met together here, a most solemn and soul-stirring incident has occurred. The Empire has sustained an incomparable loss. The Victorian era, a most memorable epoch, has passed. The British Empire and the world in general, wherever civilisation exists, is mourning the death of our late Sovereign. Europe, Asia, Africa, America, and Australia have been deeply touched, and have all given kindly expression to their profound sympathy with us. It is not only the loss of a great ruler that is mourned, but also the loss of an inexpressible influence, of a good, religious, wise, and gracious lady, and of a sympathetic woman. Who can have read without having been deeply touched her oft-repeated solicitude for those in distress, whether her soldiers, sailors, or others of her subjects? Our late Queen's influence must necessarily have been greater than that of any previous monarch in the world's history. For Queen Victoria's Empire has been the only one in which influence, whether

for good or evil, could have been felt over an extent of territory so great that on it the sun never sets. But we as Members of this Institute have even a closer tie, a deeper cause for mourning. Her late Majesty was not only our beloved Queen, but also our most gracious, beneficent Patron. Her kindly interest in us commenced with the action of her Royal Consort in our early days, and has been evinced from time to time during the whole of her long and glorious reign. Those who have had the honour of receiving from this Institute the Queen's Gold Medal for Architecture will cherish no possession more highly. It is a memento of the greatest Queen the world has seen, and also of the kindly encouragement her late Majesty so beneficently extended to influence for good our art of Architecture. Her reign has been the most memorable in the annals of this country for the marvellous increase of her Empire, and its unrivalled prosperity, as well as for the unprecedented advancement in learning, science, and art. I feel sure there is not one amongst us who not only deeply sorrows, but who must also feel a loneliness at heart at the loss of our late beloved Sovereign Queen Victoria. There is a great blank.

But in our grief we have happiness in welcoming our King's accession. From his known affection and sympathetic understanding of his people, his careful attention to his duties, and his gracious promises to follow in the footsteps of his Royal mother, we feel every confidence that he will so wisely rule as to endear himself to his subjects, who will entertain the deepest feelings of loyalty and devotion to His Most Gracious Majesty King Edward the Seventh. God save the King!

As a matter of form I must ask you to ratify the action of your President and Council in sending to His Majesty an Address expressing on behalf of this Institute and its allied Societies the sincere expression of our sorrow and loyalty.

The Secretary then read a copy of the Address, the original of which, engrossed on vellum, was forwarded for presentation to the King a few days ago:—

*The Humble and Loyal Address of the Royal
Institute of British Architects to
His Most Gracious Majesty the King.*

May it please Your Majesty,—

We, your dutiful subjects, the President and Council, on behalf of the members of the Royal Institute of British Architects and of the Societies both in the British Islands and the colonies in alliance therewith, beg leave humbly and respectfully to approach your Majesty, and to offer our deep and heartfelt sympathy in the inexpressible loss your Majesty, the members of the Royal Family, and the nation have sustained by the

death of your Royal mother—our late Most Gracious Sovereign Queen Victoria of glorious memory. Her late revered Majesty encouraged with her Royal and generous patronage the art that is so dear to us, and we mourn with deepest sorrow, not only, in common with the rest of the British Empire, our beloved ruler, but also the gracious and beneficent patron of the Royal Institute throughout the whole length of her long reign. We most respectfully and dutifully tender to your Majesty our sincere devotion and loyalty on your accession to the Throne, and earnestly pray that the Almighty will grant your Majesty and your Royal Consort Queen Alexandra a long, happy, and glorious reign, during which the nation may prosper, the arts flourish, and your Empire enjoy all the blessings of peace.

On behalf of the Royal Institute,

(Signed) WM. EMERSON, *President*.

EDW. A. GRUNING	} <i>Members</i>
J. M. BRYDON	
ALEX. GRAHAM	} <i>of Council</i>
W. J. LOCKE	
ALEX. GRAHAM, <i>Hon. Secretary</i> .	
W. J. LOCKE, <i>Secretary</i> .	

The following communication has been received from Mr. Edwin T. Hall [*F.*]:—

I recently had the honour to receive letters from Baron Max Ferstel [*Hon. Corr. M.*] of Vienna and M. Poupinel (Principal Secretary Société Centrale des Architectes français) containing such kindly reference to our national mourning that I feel sure my brother architects will be interested in the following extracts:—

Baron von Ferstel writes: "I am performing a sad office in telling you how deeply struck we all are by your great national sorrow. The respectful sympathy my country always had for her late Majesty the Queen makes us feel her death as a loss for the whole world. In my character as Corresponding Member I beg to testify my true and deep sympathy in your and the English nation's sorrow."

M. Poupinel writes: "Is it necessary to tell you that I feel sincerely your loyal sorrow at the loss of her Majesty Queen Victoria? We had, generally, a real sympathy for her character and respected her age. You know the Prince of Wales was very popular in France, so his presence on the Throne can be felt only with favour and sympathy."

I have the full consent of both these gentlemen to the publication of their sentiments, and it gives me great pleasure to make them known. I feel sure we all highly esteem the sympathy of our colleagues abroad.

The Royal Gold Medal.

The next business on the agenda had reference to the Royal Gold Medal. The Chairman stated that under ordinary circumstances this would have been the night on which the choice of the

Royal Gold Medallist would have been made known. Under present circumstances it was impossible to move in the matter. The Royal Gold Medal was a personal gift of the late Queen. With the death of our revered Sovereign this gift had ceased, and the time had not arrived, nor would it have been politic, to approach his present Majesty on the subject. Therefore for the present, and for this year, the award of the Gold Medal must remain in abeyance. The continuance of the presentation was a question that entirely depended upon the King's wishes and personal goodwill. The Council intended, at a convenient date, to make application that the award of the Gold Medal shall be continued in future. But the Council were advised, informally and unofficially, that it would be wise to postpone this application for a while; and further, that if the Council stated that in view of the sudden heavy pressure of affairs they did not propose to apply for the Medal for this year's presentation, provided always that such was the King's pleasure, the action of the Council might be appreciated. The Council proposed therefore to adopt the course suggested, and, if the proposal was agreeable to His Majesty, not to nominate a candidate for the year 1901.

London University.

The Board of Studies for "Fine Art (inclusive of Architecture)" has now been formed. It consists of the following members on the teaching staff of the University:—Professor F. Brown (University College), Professor T. Roger Smith (University College), Professor R. Elsey Smith (King's College), Professor E. A. Gardner (University College), Professor W. Flinders Petrie (University College), Professor W. C. Unwin (Central Technical College); also of Sir Edward J. Poynter, P.R.A., and Mr. Arthur Cates. Mr. Cates, who will represent the interests of the Institute on the Board, has been appointed Chairman.

Federation of Australian Architectural Societies.

Recent advices from Melbourne show that the Federation of the Australian Colonies is to be followed by the federation of the various architectural societies scattered throughout the Australian continent. This step has been resolved upon by the Conference of Australian Architects held at Sydney in the first week of the present year. The *Building, Engineering, and Mining Journal* of Melbourne of the 5th ult. gives publicity to the following letter addressed to the Chairman of the Sydney Conference by Mr. George C. Inskip [*F.*], who was lately appointed Hon. Secretary to the R.I.B.A. in Australia:

I have for many years advocated the federation of the Australian Institutes of Architects, and the forming of one Institute with chapters in the various colonies. When

occupying the position of President of the Royal Victorian Institute of Architects, which I have had the honour to do upon three occasions, I made efforts (in 1891-2) to bring about this result, but without success. Now that we are all rejoicing that Federation of the various Australian Colonies has been brought about, it is, I think, a fit time to again bring forward this subject. Australia has now become one nation, and the time has arrived for Australian architects to form an Australian Institute. We in Australia are working under altogether different conditions from architects in the old country, and should therefore not be satisfied with affiliation with the R.I.B.A. We are too far away from the old country to reap any special advantages therefrom, and if affiliated lose our individuality, and to a certain extent our independence, and sink to the level of a small provincial society in England. The forming of an Australian Institute of Architects is a matter that must not be allowed to drop, if we desire to take an independent and leading position amongst the architectural societies of the world. An Australian Institute cannot possibly hope to rival the parent Institute, which will always be looked upon by Englishmen as the acknowledged head of the architectural profession. An Australian Institute should occupy the same position in relation to the parent society that the colonies occupy towards the mother country, independent, but working in harmony with it, for the welfare of the whole profession. I am sorry I am unable to visit Sydney to bring this matter personally before the Conference, and shall therefore be glad if you will kindly do so, and, if possible, get a committee appointed to take into consideration the best means of bringing about the Federation of the various Colonial Institutes. Should the Conference decide to appoint such a committee I shall be pleased (if desired) to act upon it. As Hon. Secretary to the Royal Institute of British Architects in Australia, I would also ask you to be kind enough to draw attention to the fact that the R.I.B.A. Examinations to qualify for Associateship will be held in Sydney in 1901, and in Melbourne in 1902, and to point out to all young architects the advantages to be gained by passing this examination, and that it would give them at once a position in the profession that can be obtained in no other way. The holding in Australia of these examinations must not be looked upon as an attempt by the R.I.B.A. to usurp the functions of an Australian Institute, but simply as offering to colonial architects an opportunity of joining the parent society, which should be eagerly taken advantage of. The passing of this examination by Australian architects should be looked upon in the same light as colonial medical men look upon the taking of an English degree, viz. as an extra qualification giving them a higher status in their profession. In conclusion I may state that I shall follow with much interest the work of the Conference, and trust that it will be the means of bringing about the kindly feeling and unity that should exist between members of the same profession in all parts of Australia.

The sequel shows, as stated above, that the Sydney Conference have decided to form a Federal Institute of Architects as advocated by Mr. Inskip, and it may be confidently anticipated that the union will lead to a considerable accession of strength, and to a marked improvement in the status of the profession in Australia. A proposal to establish a Federal Scholarship for young architectural students has also been approved by the Sydney Conference. It is hoped that means will be forthcoming to make the proposal an accomplished fact. Such a scholarship would prove highly stimulating to the youthful architect,

and would not be without beneficial results to the community.

In view of the unique opportunities to be afforded Australian architects in the planning and building of their Federal capital, a magnificent future lies before them. Their efforts on behalf of their art will be watched with keen interest and warmest sympathy by their brethren, not only in the mother country, but in every part of the British dominions.

The Institute of American Architects and Washington Improvements.

Recent discussions concerning the desirability of establishing some sort of official Board of experts, constituted of artists of acknowledged excellence, for whose approval should be submitted the designs for the frontages of buildings proposed to be put up in the chief streets and places of our towns and cities, render of interest the efforts being made in a somewhat similar behalf by the Institute of American Architects, for the City of Washington and the District of Columbia. At a recent convention of the American Institute a committee was formed for the purpose of promoting a Bill in Congress for the appointment of a commission "which should procure a general plan for the City of Washington, to determine the location of public buildings, ordering of landscape and statuary, and the extension of the park system in the District of Columbia." The scheme has progressed so far that a Committee of the Senate has reported favourably upon it and recommended the adoption by the Senate of the following resolution:—

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States be, and he is hereby, authorised to appoint a commission, to consist of two architects and one landscape architect eminent in their professions, who shall consider the subject of the location and grouping of public buildings and monuments to be erected in the District of Columbia, and the development and improvement of the entire park system of said district, and shall report to Congress thereon the first Monday in December, nineteen hundred and one.

That to carry out the provisions of this resolution the sum of ten thousand dollars be, and the same is hereby, appropriated, out of any money in the Treasury not otherwise appropriated, to be expended under the direction of the President.

The Senate Committee, in their Report, point to the remarkable success achieved at the Chicago World's Fair as showing how an artistic plan may be devised and carried out so as to be a source of national pride and a means of national education. What has been achieved temporarily in the midst of commercial cities may be realised permanently in a non-commercial capital city. The Report continues: "Washington has reached that stage in its development when a well-matured scheme of development for its parks and boulevards, the

location of its new public buildings, and the treatment of its bridges and monuments must be adopted. This necessity has found expression . . . especially in the discussions of the representative association of the architects of the United States. . . . The committee has assurances that the services called for by the resolution would be rendered willingly by men who have attained the highest rank in their professions, and that the President of the United States has but to make the request of the very best of them to receive a quick response dictated by a patriotic desire to place their experience and abilities at the service of the country in beautifying its capital. Experience at Chicago and elsewhere has shown that the best results are attained by a small commission of professional men working together; for the object is to secure expert testimony on a question with which experts alone are competent to deal. The dignity and grandeur of the Capitol, the graceful and satisfactory proportions of the White House, the classic simplicity and lasting beauty of the older public buildings, and the admitted excellencies of the original plan of the city of Washington, all come from the employment of trained men, selected and directed by the President of the United States. It is these precedents that the resolution seeks to follow."

MINUTES. VII.

At the Seventh General Meeting (Business and Ordinary) of the Session 1900-1901, held Monday, 18th February 1901, at 8 p.m., Mr. E. A. Gruning, *Vice-President*, in the Chair, with 32 Fellows (including 15 members of the Council), 43 Associates (including 2 members of the Council), 1 Hon. Associate, and several visitors, the Minutes of the Meeting held 21st January 1901 [p. 136] were taken as read and signed as correct.

The Secretary read an Address from the President to Members in reference to the death of Queen Victoria and the accession of King Edward VII. [p. 185].

The Secretary, further, read the Address of Condolence and Loyalty which the Council on behalf of the Institute had forwarded for presentation to His Majesty the King [p. 186].

The Chairman announced that, subject to the King's pleasure, the Council did not propose to nominate a candidate for the Royal Gold Medal for the current year [p. 186].

The following candidates for membership were elected by show of hands under By-law 9:—

AS FELLOWS (7).

FRANCIS SPENCE BAKER [A. 1892] (Toronto).
ARTHUR CONRAN BLOMFIELD, M.A. Cantab.
CHARLES JAMES BLOMFIELD.
GEORGE FREDERICK COLLINSON [A. 1892].
WILLIAM FLOCKHART.
JOHN LEEMING.
JOSEPH LEEMING.

AS ASSOCIATES (23).

THEOPHILUS BRADFORD BALL [Probationer 1894, Student 1897, Qualified 1900] (Weston-super-Mare).
ERNEST WILLIAM BANFIELD [Probationer 1894, Student 1898, Qualified 1900].
GEORGE BRUMELL [Probationer 1893, Student 1896, Qualified 1900] (Morpeth).
HENRY MUNRO CAUTLEY [Probationer 1893, Student 1896, Qualified 1900] (Ipswich).
WILLIAM GERALD ST. JOHN COGSWELL [Qualified 1900, Special Examination] (Chester).
WILLIAM EDWARD BENJAMIN FROOME CROOK [Qualified 1900, Special Examination].
HENRY ARCHIBALD DOUGLASS [Probationer 1892, Student 1897, Qualified 1900] (Brighton).
THOMAS WALLIS GORDON [Probationer 1890, Student 1892, Qualified 1900] (Nottingham).
ALFRED HAROLD GOSLETT [Probationer 1895, Student 1897, Qualified 1900].
SHIRLEY HARRISON [Probationer 1897, Student 1898, Qualified 1900, *Ashpitel prizeman*] (Leicester).
CHARLES EDWARD HUTCHINSON [Qualified 1900, Special Examination].
ALFRED LIGHTLY MACGIBBON [Probationer 1895, Student 1897, Qualified 1900] (Edinburgh).
ROBERT HENRY JEWERS MAYHEW [Probationer 1897, Student 1898, Qualified 1900].
WILLIAM VINCENT MORGAN [Probationer 1893, Student 1895, Qualified 1900] (Carmarthen).
REGINALD WYNN OWEN [Probationer 1894, Student 1896, Qualified 1900] (Liverpool).
ALFRED WYATT PAPWORTH [Probationer 1897, Student 1898, Qualified 1900].
JOHN QUAIL [Probationer 1897, Student 1898, Qualified 1900] (Leamington).
FREDERICK JOHN OSBORNE SMITH [Probationer 1893, Student 1897, Qualified 1900].
EDWIN JAMES TENCH [Probationer 1894, Student 1896, Qualified 1900] (Norwich).
CHRISTOPHER BOSWOOD THOMAS [Probationer 1894, Student 1896, Qualified 1900].
HENRY ARCHIBALD TINKER [Qualified 1900, Special Examination].
PHILIP JOHN TURNER [Probationer 1894, Student 1898, Qualified 1900] (Stowmarket).
WILLIAM JOHN WALFORD [Probationer 1894, Student 1898, Qualified 1900].

AS HON. FELLOW.

Sir LAWRENCE ALMA-TADEMA, R.A., F.S.A. [H.A.].

The following candidate, found by the Council to be eligible and qualified for candidature under the Charter and By-laws, was nominated for Fellowship:—Joseph Henry Brewerton (Bournemouth).

The following members attending for the first time since their election were formally admitted and signed the respective registers—viz.: Herbert Hardy Wigglesworth and David Barclay Niven, *Fellows*; Ernest William Banfield, John Stanley Heath, Alfred Wyatt Papworth, James Edward Coleman Shield, and William John Walford, *Associates*.

A Paper on ASYLUMS AND ASYLUM PLANNING, by Mr. George T. Hine [F.], having been read for the author by Dr. Hayes Newington, and illustrated by numerous plans exhibited by Mr. Hine, a discussion ensued, and votes of thanks were passed by acclamation to the author and reader respectively of the Paper.

The proceedings then closed, and the Meeting separated at 10.30 p.m.

THE HIGHER EDUCATION OF ARCHITECTS.

By ARTHUR CATES [F.].

V. L'ÉCOLE NATIONALE ET SPÉCIALE DES BEAUX-ARTS, PARIS.
SECTION D'ARCHITECTURE.

THE great academic system to which France is so deeply indebted for the foremost position which she has for nearly four centuries taken in Literature, Science, and Art, was inaugurated in the reign of Louis XIII. The "French Academy" was instituted in 1685 under Cardinal Richelieu. The "Academy of Painting and Sculpture" in 1648, in the Regency under Cardinal Mazarin. The "Academy of France" at Rome was founded in 1666 by Louis XIV., on the advice of Colbert, and first housed in the Palazzo Capranica, was removed about 1786 to the Palazzo Mancini, and was, in 1803, finally settled in the Villa Médicis. In 1671 the same monarch, influenced by his enlightened Minister, established the "Academy of Architecture," which was re-organised in 1775.

At the Revolution these Royal Academies were suppressed by a decree of the National Convention of 8th August 1793, but in 1795 the National Institute of Science and Art was founded by a decree of the Republic, and the *École des Arts* for painting and sculpture was established; but in 1816 Louis XVIII. re-established these bodies, and after various changes the *Institut de France* now consists of five bodies, viz. the *Académie Française*, the *Académie des Inscriptions et Belles-Lettres*, the *Académie des Sciences*, the *Académie des Beaux-Arts*, and the *Académie des Sciences Morales et Politiques*.

On the suppression of the Academy of Architecture in 1793, individual efforts were made to establish a school—an "atelier" was conducted by David Le Roy, A. L. T. Vaudoyer, and P. L. Baltard, by whom the tradition of the Academy was kept alive between 1793 and 1816. The *École d'Architecture* was established on the ground floor of the Institut, and, combined with the *École des Arts* for painting and sculpture, formed the *École des Beaux-Arts*.

In 1608, Marguerite de Valois, first queen of Henri IV., La Reine Margot of the *Heptameron* and the *Mémoires*, as a pious act towards the close of her gay and chequered life, founded, in the gardens of the palace she had recently built in the Rue de Seine, the *Couvent des Petits Augustins*, of which the chapel still exists, appropriated as the Renaissance Museum of the École, while the sacristy is devoted to the glory of Michael Angelo. On the suppression of the monastic orders and religious houses, the National Assembly, in 1790, appropriated the ancient *Couvent des Petits Augustins* to receive the monu-

ments and objects of art collected by Alexandre Lenoir (1762-1839) from churches and religious houses, and saved by his care from destruction by the iconoclastic fury which then raged against all things connected with the Church and nobility; the collection thus formed became the celebrated *Musée des Monuments Français*.*

At the Restoration, Louis XVIII., on 24th April 1816, decreed that the monuments collected by Alexandre Lenoir should be returned to the churches and edifices whence they had been taken, and on 18th December the buildings which had been occupied by the museum of Lenoir were appropriated to the *École Royale et spéciale des Beaux-Arts*.

The designs for the new buildings for the École were entrusted to François Debret (1783-1850); the first stone was laid 3rd May 1820. In 1834 Debret was replaced by his brother-in-law and former pupil, Félix L. J. Duban (1797-1870), who had been an inspector of the works under him. Duban remodelled the whole scheme, which had not far advanced, and was actually the architect of the Palais des Beaux-Arts as it now stands, from the entrance in the Rue Bonaparte where the colossal busts of Poussin and Puget guard the portal, to the elegant and dignified façade on the Quai Malaquais, which added charm to that quarter of the city, and was completed in 1862.†

The École des Beaux-Arts lodged in this splendid building is supported by the Government,‡ and the instruction given to those so fortunate as to obtain admission is entirely gratuitous. The limit of age is between fifteen and thirty, and besides French subjects a restricted number of foreigners are admitted to the school: among them students come from England, America, Italy, Switzerland, Belgium, Austria, Roumania, and even Persia.

The *Administrative Staff* of the École, under a director appointed for five years by the President of the Republic, consists of a secretary, an inspector, a keeper and assistant-keeper of

* Lenoir, Alexandre: *Notice Historique des Monuments des Arts réunis au dépôt national*, Paris, 1793; *Musée des Monuments Français*, Paris, 1804.

† Daly, César: *Funérailles de Félix Duban. Discours prononcés sur sa tombe*. 80. Paris, 1871.—Beulé, E.: *Eloge de Félix Duban. Notice sur sa vie et ses ouvrages. Académie des Beaux-Arts*, 9 novembre 1872; *Revue Générale de l'Architecture*, vol. xxix., 1872, pp. 206-217.

‡ The Budget for the current year is 420,260 francs, say £16,900, and 100,000 francs, £4,000, towards providing additional accommodation.

the library records museum and collections, a librarian and two sub-librarians, with thirty-nine clerks, officials, and attendants.

The *Teaching Staff* consists of twenty-eight professors for the École, and eleven professors for the ateliers, and is under the superior Council of the École, formed of twenty members, viz.: The Director of Beaux-Arts, the Director and Secretary of the École, two painters, sculptors, and architects, one engraver, and five other persons—these twelve members being selected outside the École, and appointed by the Minister of Fine Arts; also five selected Professors of the École—viz. of painting, sculpture, architecture, science, and history.

The *Juries* for painting, sculpture, and architecture consist of thirty members each, the permanent members being the member of the corresponding section of the Académie des Beaux-Arts of the Institut de France, the professors of the École and artists recognised by the Council as teachers. The permanent members must not exceed two-thirds of the total number.

Admission to the École is only obtained by success in competition at the half-yearly Entrance Examinations.

For the admission of Painters the tests are—first, a drawing from the antique, or from life, in twelve hours. Those who pass this test satisfactorily proceed to the further examination; these may number 80 of the candidates, with at the most 40 supplementary (foreigners) who have to execute—1. An anatomical (osteological) drawing “en loge” in two hours. 2. A perspective drawing in four hours. 3. Modelling a fragment of a figure from the antique in nine hours. 4. An elementary study of architecture “en loge” in six hours. 5. An oral or written examination on general history.

For Sculptors, the preliminary test is a figure modelled after the antique, or from life, in twelve hours. The further examination of the 27 candidates selected, with 15 supplementary (foreigners), is—1. An anatomical (osteological) drawing “en loge” in two hours. 2. A drawing of a fragment of a figure in nine hours. 3. An elementary study of architecture “en loge” in six hours. 4. An oral or written examination in general history.

The Architect, being a student of science, and a constructor, as well as an artist, has to undergo a more severe and comprehensive entrance examination, and a much wider course of instruction than the painter or sculptor. Of the courses of lectures, no fewer than twelve are special to the architect; full details of all are given further on.

At each half-yearly entrance examination for admission to the section of Architecture there may be from 400 to 500 candidates, of whom 60 only are admitted; 15 of them may be foreigners, making 90 French subjects and 30 foreigners admitted yearly to this section—120 in all.

The great prestige of the École, the severity and thoroughness of the entrance examination,

and the large number of students who desire admission, has a widespread effect throughout France in creating a high standard of preliminary education in art, and raising the general standard of education.

This is particularly so as regards the architect. The architect “novice” differs much from the painter or sculptor “novice.” He is generally older, smarter, and better dressed; older, because the architect, having to submit to serious examinations in mathematics, physics, history, &c., has invariably completed a thorough school education before entering the École, and has generally passed through a preliminary training of one or two years in an external atelier; the whole of the students admitted in 1900 were pupils of one or other of nineteen ateliers, in which the young architect graduates from the “Nouveau” up to the “Diplômé.” And he is smarter and better dressed, because his family is generally in easy circumstances, since the desire to become an architect rarely occurs to the son of a village tradesman, while aspiring painter and sculptor novices, led on by the inspiration of colour and form, continually reach the École from remote hamlets, rich only in their devotion to art.

The great principle of the system is that of competition. Progress in the school can only be obtained by success in the competitions, and advancement from the second to the first class is only granted to those who have gained in perhaps three years’ continual work, a certain number of marks in defined competitions.

The work for these competitions, except the preliminary sketches of design, which are required to be performed “en loge,” may be executed either in one of the three ateliers attached to the Architectural Section of the school, or in an external atelier. Each atelier of the “École” will accommodate fifty students, and admission to it is only gained by the consent of the Professor “Patron” of that atelier who may find of the applicant “dignus est entrare.” The student may attach himself to an external atelier,* and in either, having gone through the usual mysteries of initiation, he will be able, on payment of a moderate entrance fee and a modest monthly contribution towards the necessary expenses, to enjoy the advantage of the direction and criticism given by the “Patron,” and the advice of the older students; since the actual

* An external atelier may be considered a commonwealth of architectural art, constituted by the aggregation of enthusiastic students, brought together by admiration for the genius or personality of the “Patron,” mutual personal friendships, opportunities of vacancies, and other reasons, and forming a self-governing community, under the influence, control, and guidance of the “Patron.” The working professional office of the “Patron” is generally quite distinct from the atelier, the students in which, as such, have nothing to do with the preparation of the drawings for his private work.

instruction lies chiefly in the hands of his fellow pupils, many of whom, "Anciens" working up for the Grand Prix or the Diplôme, will be men of comparatively mature age, while the spirit of rivalry existing between the students in the ateliers and between the ateliers themselves, tends to develop and encourage the best elements in the art of design; and in the École itself everything which would encourage the seeking for the beautiful is amassed around the student, and creates with the very air he breathes a noble enthusiasm to excel in his art.

The complete course of the École up to obtaining the Diploma may occupy eight years, but only one student in each year can obtain the Grand Prix de Rome.

The great inducement for skilled and experienced men to continue for the best early years of their lives in academic study, is the hope of attaining the great honour of the Grand Prix de Rome, and certainty of obtaining Government patronage as a reward for their successes. Dispensation from two years' military service, granted to those who gain certain distinctions, is a further encouragement for emulation in study. Yet, even with these substantial inducements to continue their studies to comparatively so late a period of life, no little account must be taken of the natural enthusiasm and devotion to their art, which, combined with the spirit of rivalry, induces those who have attained distinction in the earlier stages to devote themselves to the attempt to gain the highest point, and, failing that, to so distinguish themselves as to secure that official Government patronage only granted to the successful in the struggle.

THE COURSE OF INSTRUCTION.

The ÉCOLE NATIONALE ET SPÉCIALE DES BEAUX-ARTS gives instruction in the Arts of Drawing, Painting, Sculpture, Architecture, Engraving, Medalling, and Gem Engraving. It comprises:

1. Courses of lectures on the different branches of art.
2. The "École" proper, in which, after admission by competition in an Entrance Examination, the student can enjoy practical instruction, take part in competitions, and obtain rewards and diplomas.
3. "Ateliers," or studios for practical instruction, in which also prizes can be obtained.
4. Collections of casts—copies of the works of the great masters—the Envois de Rome—certain of the prize drawings—and objects of art for instruction.
5. A magnificent art library.

The instruction given is gratuitous, the whole establishment being maintained by the Government, and the school is open to both sexes.

The limit of age for students is not less than fifteen years, nor more than thirty years.

Eighteen courses of lectures are given:

1. General History. 2. Anatomy. 3. Perspective for Painters and Architects (28 lectures).
4. Mathematics and Mechanism (86 lectures).
5. Descriptive Geometry (40 lectures).
6. Physics, Chemistry and Geology. 7. Stereotomy (25 lectures) and Surveying (6 lectures).
8. Construction: Theory (20 lectures); Practice (30 lectures).
9. Building Legislation and Practice (28 lectures).
10. The Theory of Architecture (85 lectures).
11. The Literature of Architecture. 12. History and Archæology.
13. The History of Art. 14. The History of Architecture (25 lectures).
15. The History of Mediæval and Renaissance Architecture in France. 16. Ornament. 17. Decorative Design. 18. Practical Sculpture.

Of these twelve at the least are specially appropriated for architects.

The SECTION OF ARCHITECTURE is divided into two classes—Second and First. For admission the following regulations are in force:

The Competitive Examinations for admission to the Second Class are held twice a year—in the autumn and in the spring.

Candidates for these examinations must enrol themselves in due form, with evidence of age, station, and capability, and if foreigners, with a letter of introduction from their Minister.

The applicants generally number between 400 or 500 at each period, and of these only 60 can be selected—120 in each year.

Candidates have to pass through six separate examinations or tests, viz.:

1. *Drawing*: An architectural composition of a given subject, to be executed "en loge" in one sitting of twelve hours.*
- This subject is set by a commission of two members of each of the four categories of the jury (Académie des Beaux-Arts; Professors of the École; permanent members; temporary members), and is adjudicated upon by the Acting Jury of Architecture.
2. *Drawing from the Cast*: A set head or ornament to be executed in eight hours.
3. *Modelling*: A set ornament in bas-relief from a cast, to be executed in eight hours.

The subjects in drawing and modelling are set by a Commission of the Professors of Drawing, Modelling, and Ornament, and one member of each category of the jury as above. They are adjudicated upon by a mixed jury of the Professors of Drawing, Modelling, and Ornament, and ten painters, ten sculptors, and ten architects drawn by lot from the acting juries.

* In April 1900 458 candidates entered on this first stage: of these 143 were eliminated by the jury, leaving 315 to proceed, and to be thinned out in like manner at successive stages.

Candidates not obtaining a certain minimum of marks in each successive division—1, 2, 3—are at once eliminated, and at this stage the list of 120 names who have obtained the highest number of marks is made up—ninety being French candidates, and thirty foreigners. These represent double the number of candidates who can be admitted. The tests to further thin out this list then continue:—

4. *Mathematics*: Calculations done "en loge"—one subject being logarithms—and an examination in arithmetic, algebra, and geometry, in accordance with a detailed programme.
5. *Descriptive Geometry*: A study applied to the projection of an architectural subject to be executed "en loge" in eight hours; a general examination in Descriptive Geometry, in accordance with a detailed programme.
These divisions are adjudicated upon by the Professor of Mathematics. Candidates who do not obtain a certain minimum of marks in either of these (4 and 5) are eliminated.
6. *History*: An oral examination and written composition on General History, in accordance with a detailed programme—the East, Greece, and Rome, under 3, 6, and 8 heads respectively; and Modern History, under eighteen heads, chiefly relating to France. This is adjudicated upon by the Professor of General History.

The list of candidates to be admitted is then made up, the marks awarded being multiplied by the prescribed coefficients for each division, and the successful candidates being classed in order of merit. The forty-five French candidates who have obtained the highest number of marks, and not more than fifteen of the foreign candidates, are now admitted to the second class, taking place in their order after the existing members.

THE SECOND CLASS.

The lists of students are drawn up in order, regulated by the number of "valeurs" or marks obtained in the competitions, and for new students in order of merit fixed by the entrance examination. The instruction given is provided by

- I. Competitions ("concours") in architecture—divided into analytic exercises (studies of detail) and composition.
- II. Competitions ("concours") on the subjects of scientific instruction.
- III. The study of ornament.
- IV. The study of figure drawing, and the modelling of ornament and of the figure.

I. Competitions in Architecture.

In each year these consist of

1. Six competitions on analytic elements (details of the Orders) or studies of composition of detail to a large scale.

2. Six competitions, of composition or design—the designs comprise sketch, plan, section, and elevation, on a given subject.

The sketches for each are made "en loge," each in a single sitting of twelve hours.

The design may be worked out in the atelier of the École, or in an external atelier, in two months.

Students can only be admitted to No. 2 after having obtained two "mentions" in No. 1.

The works are submitted to a jury composed of the special professors and of the Jury of Architecture, who can award to (1) second mention, and to (2) first and second mention.

There are two exercises each year in connection with the lectures on the History of Architecture: these are directed by the Professor of the History of Architecture, and consist of studies of details of architecture of different periods, to be executed in six days; and to these third-class medals and mention can be awarded.

II. Competitions on Subjects of Scientific Instruction

are held twice a year, and consist—

1. For *Mathematics and Mechanics*: in problems worked out "en loge," and in an examination on the subjects of the lectures, and are adjudicated upon by the Professor.
2. For *Descriptive Geometry*: in a certain number of diagrams, of which one at least is made "en loge," and an examination thereon and on the subjects of the lectures.
3. For *Stereotomy and Surveying*: in a certain number of diagrams made during the course, in one made "en loge" in eight hours on a special problem of stereotomy, and an examination thereon and on the subjects of the lectures.
4. For *Perspective*: in a certain number of sketches and drawings from nature; in diagrams, one of which at least must have been made "en loge"; and an examination thereon and on the subjects of the lectures.

2, 3, 4 are each adjudged on the sketches and diagrams and the reports of the special professors, by a mixed jury, constituted by the Professors of Descriptive Geometry, Stereotomy, Perspective, and Construction, and an equal number of members drawn by lot from the acting Jury of Architecture; this jury can award special medal (third class) and first mentions.

5. For *Construction*: in exercises performed "en loge" during the course, an oral examination at the conclusion of the theoretical part of the courses, and special examinations in the studio. In the execution of a scheme of general construction, which lasts three months and is followed by an oral examination thereon.

Before taking part in this division the student must have a "mention" in each of mathematics,

descriptive geometry, and stereotomy, and those only who have passed the oral examination in theory are admitted to take part in the scheme of general construction.

The decision on the scheme of general construction is given on the drawings and the report of the professors by a jury composed of the jury of architecture and of the professors of construction, descriptive geometry, and of stereotomy, who can award first, second, and third medals and mentions.

III. *Study of Ornament.*

The exercises, which are of dimensions fixed by the professors, are executed in twelve hours.

IV. *Simultaneous Study of Drawing and Modelling.*

1. Figure drawing from the cast.
2. Modelling ornaments—one the figure from the cast.

The exercises on each of these subjects are directed by a special Professor of Drawing and Sculpture, are of such dimensions as he may determine, are each to be executed in twelve hours, and are submitted to a mixed jury of the three Professors of the Simultaneous Study of the Three Arts, of the Professor of Decorative Composition, and of ten painters, ten sculptors, and ten architects, drawn by lot from the acting juries, who can award third-class medals and mentions.

In order to pass from the second class to the first class the student must have obtained

1. In Architecture six "valeurs," that is, two in the competitions of analytic elements, and four in the competitions for composition, of which two at least must be on given subjects.
2. In Mathematics, in Descriptive Geometry or Stereotomy, in Construction, in Perspective, a medal or a mention.
3. In Ornament, Figure Drawing, Ornament or Figure Modelling, studies of the History of Architecture, a medal or a mention.

A fairly successful student, giving up his whole time to the work, would probably occupy three years in gaining the required number of marks ("valeurs") to obtain admission to the first class.

THE FIRST CLASS.

The competitions open to the pupils of the first class are—

- I. Competitions in Architecture.
- II. A competition in Ornament and Decoration.
- III. A competition relating to the lectures on the History of Architecture.

The *Competitions in Architecture* consist each year of—1. Six on given subjects. 2. Six on sketches of design.

All the sketches are executed "en loge," and

each is completed in a single sitting of twelve hours.

For 1. First-class medals, first second-class medals, second second-class medals, and first mentions can be awarded, but the number of second second-class medals may not exceed five at each competition.

For 2. First second-class medals, and first and second mentions are awarded.

There are also in each year other competitions—

1. For the "Rongevin" prizes of 600 and 400 francs, awarded at the conclusion of a competition of Ornament and Decoration, executed "en loge" in seven days. For these first-class medals, first second-class medals, and first mentions are awarded.
2. For the "Godebœuf" prize of 740 francs, awarded by the acting Jury of Architecture on the result of a competition of a study of a special architectural work in ironwork, leadwork, marble, &c., worked out complete for execution, with details and profiles, the drawings being executed in the ateliers in fifteen days, after sketches made "en loge" in twelve hours. For these first-class medals, first second-class medals, and first mentions are awarded.
3. Two relating to the lectures on the History of Architecture. These consist of compositions reproducing a definite style of architecture, of which the programme is fixed by the Professor of the History of Architecture. The sketches for these designs are made "en loge," and the drawings are completed in ten days. For these first second-class medals and first mentions are awarded.

The simultaneous study of drawing and modelling is to instruct the painter in architecture and sculpture, the architect in drawing and sculpture, the sculptor in drawing and architecture.

The exercises in this school, which is open every day, consist—

1. In figure drawing from the life or the cast.
2. In modelling ornament and the figure from the cast.

Each work, of specified dimensions, is to be executed in twelve hours, and is adjudicated on by a mixed jury, composed of the three Professors of the Simultaneous Study of the Three Arts, the Professor of Decorative Composition, ten painters, ten sculptors, and ten architects, drawn by lot from the acting juries. Second-class medals and first mentions can be awarded.

Every year, at the conclusion of the course of lectures on the History of French Architecture, the Professor may award medals and mentions to those students who have shown most aptitude and have best profited by his instruction.

The Grand Medal of Emulation is awarded

each year to the student who has gained the highest number of "valeurs" in the various competitions of the year.

The awards of medals and mentions may be illustrated by the following examples of last year.

For a sketch competition, subject "A Pulpit," 118 designs were exhibited: three first second-class medals, two first and eight second mentions were awarded.

For a sketch competition, subject "A Synagogue," 124 designs were exhibited: the jury awarded three first-class medals, six first second-class medals, four second second-class medals, and eighty-three mentions.

For the "Prix Rongevin" 164 designs were submitted: the jury awarded a first prize and first-class medal, a second prize and first-class medal, three first-class medals, six second-class medals, and ninety-four mentions.

For the "Prix Godebœuf," subject a "Campanile of a Town Hall," 186 designs were submitted: the jury awarded six first-class medals, eight second-class medals, and ninety-six mentions.

For purposes of comparison, medals, mentions, &c., are converted into "valeurs" in accordance with an established valuation for each reward in each class: thus generally a first-class medal will represent three "valeurs," a first second-class two "valeurs," a second second-class one and half "valeurs," a first mention one "valeur," a second mention half "valeur"; while in the division of Construction a first-class medal represents five "valeurs," a second-class four "valeurs," a third-class three "valeurs," and a mention two "valeurs."

Various prizes are annually awarded—most founded by individuals. Such are—

The *Prix Muller-Sæhne* of 599 francs, awarded to that pupil in the second class who has carried off the greatest number of "valeurs" in the year.

The *Prix Jay* of 700 francs, for the pupil in the second class who takes the first place in the competition in Construction.

The *Prix Jean Leclaire* of 500 francs, for the student who takes the shortest time in fulfilling the conditions for passing from the second to the first class.

The *Prix Jean Leclaire* of 500 francs, for the student of the first class who has gained the Grand Medal of Emulation.

The *Prix de la Société Centrale des Architectes*—the great medal of the Society—awarded annually to the student of the first class who has gained in the three preceding years the greatest number of "valeurs" in medals only in the competitions on set subjects.

The *Prix Abel Blouet* of 1,000 francs, awarded each year to the student of the first class who has gained the greatest number of "valeurs" since his entry into the school.

The *Prix Rongevin* of 600 and 400 francs, above described.

The *Prix Godebœuf* of 740 francs, above described. The *Prix Edmond Labarre* of 200 francs, awarded in a competition of three days' design between students of first and second classes.

The *Prix Couvents-Daupeley*—five prizes of 753 francs 80 c. each—awarded each year to students little favoured by fortune, and whose work deserves encouragement.

The *Prix de Reconnaissance des Architectes Américains*, of 1,740 francs, founded by American architects in recognition of the instruction received by them at the school, is reserved exclusively for the French students of the section of Architecture, and is awarded as the result of a special competition.

There are also bursaries available under the *Fondation Chenavard* for assisting poor students ("Pauvres") in their studies.

The *Prix Saint-Agnan Boucher* of 1,000 francs is awarded every fourth year to the architect student who, having acquired the "valeurs" required to qualify for the diploma, has continued his studies and obtained the greatest number of "valeurs" for set subjects.

The drawings submitted in competition for prizes are publicly exhibited, and collections of phototypes of each year's work are published.*

The vacation is from August 1 to October 15: during this vacation rooms are available for pupils who desire to continue their studies. At the same time, subjects for design are set for pupils of the second and first classes.

There are three ateliers or studios available for architects, who, subject to the concurrence of the Professor ("Patron d'Atelier"), can select the studio in accordance with the date and order of their admission. These ateliers are open every day under the control of the Professors.

Beyond the limit of age (80 years) there is no restriction of the time which may be spent in the schools, except that in the second class any student who has not submitted two designs at least, or taken part in two competitions of analytic elements, or undergone two examinations, or submitted one design and undergone one examination, or gone through the competition of Construction, is considered as withdrawn, and can only re-enter the school by the ordinary course. Any student of the first class who has not submitted one design at the least, and taken part in one of the sixteen competitions of the year, is considered as having abandoned the intention of continuing his studies in the school.

At the end of each year a prize of 816 francs is

* *Les Médailles des Concours d'Architecture—de l'École Nationale des Beaux-Arts—et Grands Prix de Rome.*

1^{re} Volume, 227 Phototypies, année scolaire 1898-1899.
2^{me} " " " " " 1899-1900.

awarded to that pupil of the studios who has gained the Great Medal of Emulation of the school.

The Study of Decorative Design—by Painters, Sculptors, and Architects.—A room is daily open for the study of Decorative Design by such painters as have obtained mention in Modelling and Architecture, sculptors who have obtained mention in Drawing and Architecture, and architects who have obtained mention in Drawing and Modelling. The studies consist of exercises in Decorative Design, combining the three arts, and directed by the Professor, and each occupies twenty-four hours' work—of either Drawing or Modelling. The works are judged by a jury of three Professors of the Simultaneous Study of the Three Arts, the Professor of Decorative Design, ten painters, ten sculptors, and ten architects drawn by lot from the active juries.

Once each year there are two competitions among the members of this class who have obtained the "mention" of the three arts, on a programme set by the Professors, the sketch design being made "en loge" in twelve hours, and the completed design within a month, in such form as to drawing and modelling and scale as the Professors may determine; the awards being made by a jury constituted as the last-mentioned, and being—a second-class medal and 200 francs; a first third-class medal and 150 francs; and a second third-class medal and 100 francs.

There are also yearly two competitions in Decorative Design open to students who have obtained the mention of the three arts. They are in two stages. For the first stage the competitors produce, "en loge," in twelve hours, a sketch design from the subject given. On these sketches are decided the six students in each section who shall be permitted to compete in the second stage. The second stage is the complete working out of the sketch design executed "en loge" in six days, either in drawing or modelling, and to a fixed scale. The awards are made by a similar jury to the last mentioned, and consist of a first-class medal and 300 francs; a first second-class medal and 250 francs; and a second second-class medal and 200 francs, and mentions.

The "Certificat d'Études" of the School is only granted to those pupils of the first class who have obtained either an award in the competition for the "Grand Prix de Rome" or a first-class medal, or two second-class medals, one at least of which must be for design, or five "valeurs," three of which must be for design.

Every year there is a public competition for the GRAND PRIX of Painting, Sculpture, and Architecture—open only to French subjects between fifteen and thirty years of age. The result is decided by the united sections of the Académie des Beaux-Arts, to each of which half of its number of outside artists is added—viz. seven painters, four sculptors, four architects, two

engravers. Its awards may be the first "Grand Prix" and two other rewards, second "Grand Prix," or honourable mention.

The competitors each receive a grant-in-aid for their expenses, two-thirds of the total being paid during progress, as needed, and one-third being retained to the end, and being forfeited by those who do not comply with the conditions.

The preliminary trial is on a sketch made in twelve hours: from the authors of these the jury selects twenty-five for a second ordeal, which consists of another sketch to be made in twenty-four hours: from these ten candidates are chosen, who enter, "en loge," for the final competition.

The competition lasts 110 days. The competitors may make studies for this design outside, but can only bring, "en loge," such studies on tracing paper, the entire drawing of the design being made "en loge."

The designs successful in this competition have been published in collected forms, which provide an interesting record of progress in design, &c.*

The successful candidate becomes a "pensionnaire" of the Académie de France at Rome, at the Villa Médicis, on the Pincian,† and of the École Française at Athens, and receives 8,510 francs, or £300, yearly for his expenses. Four years are to be spent in study in Italy and Greece, and the results are yearly sent to Paris. The prescribed drawings to be produced are:—*First Year*, four sheets of details, quarter full size, from monuments in Rome or in Central Italy. *Second Year*, four sheets of details of ancient monuments of Italy, quarter full size. Details of Renaissance architecture. *Third Year*, two sheets of details from an ancient monument of Italy, Sicily, or Greece, quarter full size; a study of restoration of part of this monument; a study of restoration of part of the design and essential parts of the construction of the edifice—not less than four sheets, with explanatory memoir. Details of exterior and interior decoration of Middle Age and Renaissance architecture. *Fourth Year*, the restoration of a single edifice or group of buildings in Italy, Sicily, or Greece, with complete drawings of the present state; restoration studies and details, with an explanatory historical memoir.

Some idea of the thorough and complete nature of the studies made in these four years, and of the magnificent drawings produced, may be obtained by reference to published works.‡

* *Grand Prix d'Architecture (1804-31): Projets couronnés par l'Académie Royale des Beaux-Arts de France.* Par A. L. T. Vaudoyer et L. P. Baltard. Paris, 1818-34.

‡ *Les Grands Prix de Rome d'Architecture de 1850-1900.* Reproduction en Phototypie des 1^{re}, 2^{me} et 3^{me} Seconds Grands Prix, avec les programmes des Concours (sujets donnés par l'Académie des Beaux-Arts). 4 vols. Paris, 1900.

† Baltard, Victor: *La Villa Médicis à Rome.* Dessinée, mesurée, et accompagnée d'un texte historique et explicatif. Paris, 1847.

‡ *Restaurations des Monuments Antiques, par les*

The admirable work done by the "Pensionnaires" is displayed in the two beautiful volumes of reproductions of selections from their drawings, recently published by M. D'Espouy, Professeur du Dessin Ornamental in the École. These instructive and valuable volumes should be carefully studied by young architects, not only as most important and useful records of details of historical monuments, but also as models of draughtsmanship which should awaken emulation, and the mere contemplation of them must produce a good effect.*

THE "DIPLOME D'ARCHITECTE."

The examinations for the Diploma are held in June and December of each year. A candidate for admission to them must have gained at the least ten "valeurs" of the first class in the competitions in Architecture; one "valeur" in the competition in the History of Architecture, Figure Drawing, and either Ornament or Figure Modelling; he must also produce a certificate that he has for at least one year attended works of construction under an official engineer or architect, or has himself directed such works.

Although the age limit of thirty years must be complied with as regards the acquisition of the requisite "valeurs," the Diploma may be obtained after that age.

The examination is written, graphic, and oral.

That in writing is devoted to the working out of two questions—one relating to the laws of building, the other to the practical execution of works, to each of which two hours are given.

That in drawing is a design in architecture for some important building, conceived and carried out as for actual execution. It comprises plans, elevations, and sections, figured, and includes all the details of construction, and is completed by a descriptive memoir and specification, quantities and estimate of part of the construction. The successful designs are now published in a collected form, of which two volumes have appeared, each containing about 250 phototypes.†

Architectes Pensionnaires de l'Académie de France à Rome, depuis 1798 à nos jours. Avec les Mémoires explicatifs des Auteurs. 7 vols. fo. Paris, 1877-90.

* *Fragments d'Architecture Antique, d'après les Relevés et Restaurations des Anciens Pensionnaires de l'Académie de France à Rome. Publiés sous la direction de H. D'Espouy, Professeur à l'École des Beaux-Arts. fo. Paris, 1899.*

Fragments d'Architecture du Moyen-Age et de la Renaissance, d'après les Relevés et Restaurations des Anciens Pensionnaires de l'Académie de France à Rome. Publiés sous la direction de H. D'Espouy, Professeur à l'École des Beaux-Arts. fo. Paris, 1900.

† *Les Diplômés d'Architecte; Concours de l'École Nationale des Beaux-Arts; Projets d'Architecture des Élèves de l'École, donnant droit au titre officiel: "Architecte Diplômé par le Gouvernement Français." fo. Paris.*

Each candidate may select the programme for his design, subject to rejection and revision by the architect member of the jury of examination, who may fix the scale to which it may be drawn. There is no limit of time for this work.

The oral examination is on the different parts of the design delivered, the theory and practice of the construction, the history of the style, the elements of physics and chemistry applicable to the construction, and the essential influences of the laws of building and responsibility.

The adjudication is made by a jury specially appointed each year, consisting of two of the Professors of Architecture, Chefs d'Atelier of the École chosen by lot, two professors heads of external ateliers chosen by lot from the permanent members of the Jury of Architecture, the Professors of the theory of Architecture, of Construction, of Physics and Chemistry, and of Building Legislation.

The candidate may be relegated to a succeeding session in any portion of a subject.

The Diploma was first established in 1862, when only five candidates passed. It made but little progress till 1883, at which period ninety-four had obtained the Diploma, and in that year there were twenty-four successful candidates. Their numbers have probably increased to about 100 in each year—in 1900, 98 candidates, students of 11 "ateliers" were successful, so that the principle is firmly established and fully appreciated. The holders of the Diploma have established the "Société des Architectes Diplômés par le Gouvernement," and the success and further development of the scheme must have a serious and beneficial effect in the future on the advancement of architects and the promotion of architecture.

* * This article is based on the official "Règlement" and "Programmes" for 1900, further information kindly furnished by M. Henry. Jouin, Secrétaire de l'École, and other sources. Reference has also been made to the following works, viz.: Müntz (Eugène): *Guide de l'École Nationale des Beaux-Arts, avec plans et vues. Paris, 1889.*—Lemaistre (Alexis): *L'École des Beaux-Arts, dessinée et racontée par un élève. Paris, 1889.*—Rousselet (Louis): *Nos Grandes Écoles Militaires et Civiles. 3^e édition, Paris, 1892.*—*L'École des Beaux-Arts, pp. 323-408.*—Rousselet (Louis): *Nos Grandes Écoles d'Application Militaires et Civiles. Paris, 1895.*—*L'Académie de France à Rome. La Villa Médicis, pp. 419-485.*—White, (W. H.): *A Brief Review of the Education and Position of Architects in France since the year 1671. Transactions R.I.B.A., Session 1883-84, pp. 93-120, with Plans of the Palais des Beaux-Arts.*—Spiers (R. Phené): *The French Diplôme d'Architecte and the German System of Architectural Education. Transactions R.I.B.A., Session 1883-84, pp. 121-132.*—White (W. H.): *Architecture and Public Buildings: Their relation to School, Academy, and State, in Paris and London. 8o. London, 1884, pp. 1-63.*



ADDRESS TO STUDENTS. Delivered by the President, Mr. WILLIAM EMERSON,
at the General Meeting held on Monday, 25th February 1901.

IN the few words I have the pleasure to address to my younger friends—I will not say to the students, for in our profession we must all be students to the last days of our lives, but to the junior members of the profession—I will endeavour to lead you to some higher planes of thought in relation to the practice of the art of architecture, rather than to mere practical business elements material to success. I presume, of course, that those of you who have taken the trouble to pass our examinations and become members of this Institute have in your minds the idea of practising in the profession. That is to say, I presume your intentions are those of actual performance of an architect's duties in the designing and carrying out of building operations, as opposed to mere theory, the function of the professor. I will therefore consider some few of the things involved in this word practice—the objects, aims, and points in connection therewith—that should be weighed by one undertaking such responsibilities.

There is a right use or proper employment of architecture. I need hardly point out that building is the most necessary of all sciences; in its objects it subserves the highest and the lowliest wants of humanity. It provides fitting tabernacles for the worship of the Creator, suitable courts for the administration of governments and justice, appropriate palaces for the great and dwellings for the poor; it supplies institutions for the education of all classes in all branches of learning, for the amelioration of the diseased, the poor, and the mentally afflicted, and every kind of commercial establishment; also all other forms of edifices to meet the complex requirements of the world: all these in their aggregation evolve cities, towns, and villages. It is a science, but the love of beauty inherent in our natures makes us demand that it be more—that it be an art as well—and this side of it is architecture, and, if good, unites with it all arts. It is therefore of the highest universal importance that those practising it, on whose skill and taste its proper employment is dependent, should be so educated as to plan for use, to design with appropriate beauty, and to construct with scientific knowledge.

To this end I pointed out last year how a thorough education, not only in architecture itself, but on a wide and comprehensive basis, is essential; and this education should be gained not only by study of man's work in the arts and sciences, but also by study of God's work in Nature. There should be besides an inquisitive, diligent searching into the reasons of things. The constant use of our faculties in effort with application and judgment is essential, and our highest duty. Idleness will not compass proficiency. As Shakespeare says in *Hamlet*:

He that made us with such large discourse,
Looking before and after, gave us not
That capability and godlike reason
To rust in us unused.

Architecture should be more than mere building in the best material and manner; the thought and needs of the time must be expressed. It does not suffice to satisfy the one only who has conceived it, but should be capable of pleasing all people in all times. Such a true expression of the architect's mind

Like the unchanging sun
Clears and improves whate'er it shines upon :
It gilds all objects, but it alters none.

It is the divine element in man materialised in his works: his two natures, the human and the spiritual, are evidenced in his individual conceptions.

In real architecture there must be not merely the individual bias or personality exhibited by one's particular devices, peculiarities, or the excellences of one's draughtsmanship, but there must be the expression in all sincerity of spiritual sentiment also. Ralph Waldo Emerson says:

The hand that rounded Peter's dome
And groined the aisles of Christian Rome
Wrought in a sad sincerity;
Himself from God he could not free.
He builded better than he knew,
The conscious stone to beauty grew.

That is what I take to be the meaning of the proverb "*Ars est celare artem.*" The artist's material personality or mechanical dexterity should not be predominant so much as the spiritual or divine influence inspiring him. If such be our aim, we shall rightly use any powers of architectural design with which we may be endowed, and we shall be enabled to express the highest mind that is in us by the forms of which draughtsmanship will convey the conventional rendering. This habit of mind, combined with constant practice, care, and accuracy, will lead to dexterity of expression of feeling which is essential.

But more than habit of mind for fitting expression in our art is necessary for successful practice. There should be habit of method in study, and attention to apparently trifling details, and in business conduct. For as to study it has been well said:

If not to some peculiar end designed,
Study's the specious trifling of the mind.

As to the details and little points that constantly arise, if there is not the methodical habit of carefully looking into them, things seemingly insignificant are easily overlooked, resulting in endless trouble to both the client and the architect. In regard to habits of method in business, I believe that the men with methodical habits usually get through infinitely more work, and do it better and quicker, than those lacking in this respect. Methodical habits tend to avoidance of worry, for an architect's life consists, to a large extent, of attention to details of all kinds, which should all have methodical attention in turn. And there is nothing so prejudicial to artistic effort as worry. It should be avoided in every way: a quiet and restful mind is essential to the right exercise of thought and creative power. Moreover, to worry at all is bad, and a correct feeling of what life is, and its inseparability from difficulties and troubles, should prevent our giving way to it. A nature so disposed frequently troubles itself over evils that never arise: it shows lack of faith; for

Deep in man sits fast his fate
To mould his fortunes, mean or great.

Therefore the architect whose soul is in his art should strive by methodical habits and rules of business to render himself as impervious as possible to worry. Rules no doubt are irksome, and perhaps especially so to the artistic temperament; but without method or rule

one is apt to be slovenly. One good rule is to encourage a habit of work every day; and this however disinclined one may feel, and however little in the humour—with the effort to work, the imagination will fire. It may be said the artist cannot work without the inspiration; but he can go on waiting so long for the inspired feeling that it may never come. An architect has this advantage in his life, that effort in the same groove does not recur each day; the variety of the claims upon his attention is one charm of his work. Cultivate earnestly methodical habits. I speak with some reason, for I was never brought up with these habits, and have learned the great necessity of them, particularly to the architect.

The importance in practice of study with thoroughness in both the theoretical and practical sides cannot be too strongly inculcated. There have been articles in some of the papers lately pointing out how, if England is to retain her position in trade and power, the highest intellectual education is necessary in all modern businesses. Not merely smartness or push is wanted, but intellect thoroughly trained, and of a type in which it is stated this country is woefully deficient. It is said that our business men are simply amateurish and incompetent compared with the newer type of highly educated Germans and Americans.

If it be true that in trade this highly trained intellect is so essential, in how much greater degree must it be so for the profession of architecture! For beyond the mere business element, without which, to a certain extent, it is impossible for the architect to practise successfully, there is the necessity for a thorough knowledge of art, with much of many other subjects, such as science, history, &c., combined with the study necessary for the acquirement of that dexterity without which he cannot express his ideas. How superior the educational methods in regard to architecture are in America to those in this country has lately been shown in our JOURNAL in a most able manner by Mr. Arthur Cates.

Therefore a serious reflection for the young student in this country is how very much his education must depend upon himself and his own exertions if his work is to be more than that of an amateur and have vital force, and if he wishes to succeed by his power and competency rather than by smartness and push, or by playing off upon the public the eccentricities or fashions of the moment. The days of mere building by architects in this country are, we hope, fast passing away; and in this century the public will demand, not only that the architect be versed in all practical details of his calling, but that, by really cultivated taste and intellect, he may build with power, beauty, and perfect utilitarianism.

But by those who wish to excel as artists time must be allowed for the study of Nature. The delicate tones of colour in the trees and herbage and sky, the perfection in drawing and beauty of colour in details of leaves, flowers, fruit, animals, birds, and insects, and the forms of fishes, are lessons in decoration which should be learned at first hand. Deductions and inspirations innumerable may be gathered from them, with a freshness no study at second hand from man's work can give. Burges used constantly to make his pupils draw all sorts of flowers and insects and colour them, as well as study from the life in his office. Emerson says: "In every landscape the point of astonishment is the meeting of the sky and the earth, and that is seen from the first hillock as well as from the top of the Alleghanies." And what a truth is here! It is in the meeting of the heaven and the earth, the spiritual and the material, that art is rendered capable of conveying sentiment and lessons.

The study of Nature, no matter under what aspect, puts some germ of life, some sentiment, into the spirit of the artist, whether he be an architect, sculptor, painter, poet, or musician. Inconsistencies or vulgar eccentricities are never found in Nature, though infinite wonders are discoverable to the observant mind; and in its study one may learn all beauties of proportion, form, and colour.

Therefore, cultivate habits of study and reading, as Bacon said, "not to contradict or believe, but to weigh and consider."

Higher education is absolutely necessary if the status of the architect is to be raised. It should be remembered that doctors and barristers are almost always University men; and it will be well to bear in mind that the sooner it becomes the rule, rather than the exception, for architects to receive a higher, or perhaps a University education, the sooner will the acknowledged status of the profession be elevated.

Then for facility of practice the architect should cultivate his memory; and as all cannot perform feats of memory, a practice of writing down useful information should form another habit. The architect in designing not only requires to remember details of old and other work, as a guide, incentive, or restraint to his own, but he must recollect endless details of construction and many specialities for building purposes necessary in modern structures; and this is no trivial matter. But, above all, he must remember the effect certain proportions, details, and compositions have given, in isolation or when in juxtaposition in former examples, ancient or modern. He will thus be enabled to reject or improve the crude, and profit by the excellent. Masters in our art have followed the teaching of many old examples, and they have felt it necessary to reject others. Originality of design is not shown by the utilisation of forms which better and more cultivated men than ourselves have seen good reason to discard. An educated perceptive faculty and a good memory are necessary to realise the full teaching of past times.

There is also, in connection with the practice of the art of architecture, such a word as proportion; and the value and meaning of this word may easily be lost sight of. To the architect's mind may probably immediately be suggested the comparative relation of one architectural detail to another and to the whole composition. But besides the objective symmetry and harmonic degree of form or size, proportion may be considered by the architect in other ways. Of course, proportion in this sense is the very first essential of fine architecture. It should be an inherent faculty in the architect and artist, but it may be cultivated.

It is by the proportions as much as—or even more than—by the beauty of detail that the mind is impressed by works like the Parthenon, the Pantheon, Westminster Abbey, Chartres Cathedral, the "Mercury" by Praxiteles, the "Venus di Milo," Michael Angelo's "Moses," or Cellini's "Perseus," or by the delicate refinement of the proportion of scale and relief in the decoration of the Villa Madama. And proportion must descend, also, to the smallest details. The perfection of Cellini's goldsmith's work is as much in its proportion and as important to its excellence as his wonderfully finished detail. The same applies to Etruscan goldwork and the best Indian works.

Proportion in colour is also a most important factor in the excellence of artistic work. The study of Nature is the guide as to how much of any one colour will harmonise with another. How often is work spoiled by the introduction of too much colour, or by its tone—by the coldness or excess of blue, or the foxiness of too much red, or the unpleasantness of a superabundance of yellow! Such faults never occur in Nature. The general tones of Nature, whether brilliant, as in the East, or sombre, as is often the case here, are always in perfect harmonic proportion; so also are the details of brilliant colour in birds, insects, and flowers. It should be noticed that it is only in details like these that brilliant spots of colour are found in Nature. The Owen Jones Prize is given as an incentive to study of colour in reference to architecture. It might well include in the students' works studies from Nature. It seems a pity that a greater proportion of colour cannot be effectively introduced in the buildings of our towns, which are usually so fearsome in their sombre dulness. But there can be no doubt much colour in buildings requires a bright sunshine, as in Greece, Egypt,

and India, to give it its true value. Nevertheless, I think we might be a little more cheerful in our streets with some advantage.

There is also a proportion in architectural work, which requires to be maintained, between coarseness and refinement. This is a very subtle point in all good work. Too much refinement in architectural work tends to weakness of effect, and deprives it of its masculinity. At the other extreme, "muscular" architecture, as it was termed when the reaction from the Late Perpendicular of the early part of last century set in, and a phase of Early French architecture was the fashion, may degenerate into coarseness. It is the carefully balanced proportion between these that avoids either extreme. The effect of all the finest architecture has been attained by a combination of strength and power with refinement of well-proportioned and beautiful detail.

Too much care cannot be bestowed on the proportion that sculptured and other decorations bear, first, to the whole composition, and, secondly, to each other. They either give scale or destroy it. They either adorn it or make it appear tawdry. In all this the architect's should be the guiding spirit, however much may be done by the craftsman or sculptor.

Then there is the proportion that the worship of one's art should bear to one's life. It is often said, as if it were the greatest praise, "He lives solely for his art." I doubt if this could be said of any truly great man. It is too circumscribing and belittling. The larger the environment the greater the sphere of usefulness in life; and so long as the time occupied in other affairs is not out of proportion to the valuable hours necessary to one's life's work, mingling with others and doing work in other ways enlarges the mind, is our moral duty, and should benefit our art.

Success is an object of life, but need not involve a want of sympathy with others, nor pushing on self, regardless of their claims, nor flinging on one side all other considerations on the road. Success in the practice of an architect, as in other callings, should be aided by a proportionate feeling sympathetic with a life full of effort and enthusiasm.

Nevertheless, success in the art of architecture should be the settled purpose of him who proposes to practise, and that to the fullest extent, "in proportion to his being a human being, living his life amongst his fellow-creatures, to whom he can impart or derive something. The aim of culture is to make us better company as men and women in the world." The greatest men, like Michael Angelo, Donatello, Cellini, and Goethe, were all men of other affairs besides their art, and were in sympathy with their surroundings of thought, work, and politics. To quote Ralph Waldo Emerson again, "However much of real power is found in solitude and in silent moments, a proportion must also be developed by exchange of thought and ideas in mingling with sympathetic interest with our fellow-men."

There is also a proportion that should be observed between the ideal and the sentimental. The one is the spiritual in our art, the other the simply sensuous.

Æstheticism, another American writer says, is not "the vital force inherent in the idealist; much of what in our architectural art of to-day seems to satisfy the casual and thoughtless is devoid of the life and spirit of art. The one is the appreciator and creator of all noble forms of art, the other is at home among the ginger-jar style of decorative effect." "It is the idealist who will, with a strong faith in the spirit that is in him and with energy of purpose, strike out for himself fresh achievements. He may fail, but he is ready to take the risk, and has the courage of his opinions. To the æsthete a lower plane of work altogether, a pretty tone of colour or eccentric form, a delicate curve or a sentimental line of poetry, devoid of the spiritual essence of the ideal but pleasing to the fancy, will afford infinite satisfaction."

So there should be proper proportion maintained between artistic sentiment and practical purpose. The man who sacrifices the purpose to the art is not a useful member of the

community. While he who sacrifices his art altogether to utility does not elevate the community. It is the correct judgment weighing the proportionate values of the one and the other which makes the architect.

It has been said the aim of the ancient philosophies was to raise man above common notions of happiness, an endeavour to crush his humanity and develop his divinity, to make him happy by refinement of mind and soul and by the ignoring of his material pleasures—meaning, I suppose, if this be a true rendering, complete self-denial, not so much for the benefit of humanity at large as for the individual's own exaltation. The Baconian philosophy which marked the beginning of the great strides in science and utilitarianism that have taken place during the last century was very different. It taught that nothing can be beneath our attention that may minister to the physical or material benefit of mankind. The first was grand, but scarcely attainable, or alone desirable for our human natures; the second was attainable and useful to man as he is. So the art part of architecture, the soul of it, a most potent factor in mental pleasure, is for the satisfaction of the divine side of humanity; but alone, it does not altogether satisfy the requirements of humanity; the utilitarian side of architecture is also most necessary for the satisfaction of our physical needs. The needs of both soul and body must be fulfilled in good work, and are equally worthy of the highest efforts of our intellects and imaginations. In architecture it is the hopeful spirit of the men of imagination, coupled with practical commonsense, a level brain, and a cultivated taste, that is wanted to weigh well the boundaries of the respective values of a practical idealism and a maudlin sentimentalism.

Then there is the necessity for a proper proportion being maintained between work and rest. There is such a thing as staleness. The want of recreation makes a man dull, unfit for companionship or sympathetic mingling with or interest in his fellows; and his work suffers in consequence. Also there must be margin for reflection and thought. Great achievements usually germinate in quiet moments. An overworked brain and no physical activity or recreation must have a bad result both on a man's work and his life. So time should be proportioned that there is leisure both for light reading, the study of Nature, and for recreation; then there will be freshness and vigour in your work; and if you always aim above your mark, and remember that what you do should not only be for your own personal satisfaction but for that of others and for future generations, your restful moments may benefit the world.

Then of much importance in connection with the practice of the architect, as in all other businesses in life, is another thing that must be borne in mind, and that is right principle. This in architecture will mean an avoidance of shams and false construction, which somehow always manage to look wrong, even though worked on such a grand scale as the external walls of St. Paul's, or the impudent ugliness of our shops with stone façades, apparently standing on nothing. Truth makes work look consistent and correct; lack of it offends good taste. Palatial decorations in offices, ecclesiastical embellishments in restaurants, the affectation of a cottage simplicity in a palace, or *vice versa*, imply a want of appreciation of the fitness of things, and are wrong in principle; and this element of truthful principle in architectural art should be carried down to the smallest detail, if the work is to live.

Then there should be right principle in your motive of action; and this is a most important point, if you desire, not only your personal position to be respected by others, but also wish to uphold the dignity and status of your profession generally. Professional respect must ever depend on the character, conduct, and aims of the units in the profession. Each individual has his own particular influence on the appreciation with which his profession as a whole is viewed by the public. Dubious transactions entered into for the sake of emolument,

a too great regard for personal advantage, or a disregard of the interests of others, tend to acts lowering to the profession. On this ground I would recommend due consideration before entering into competitions. See at least that the conditions are not derogatory to the dignity of a great profession, and see that they are fair as much in your competitor's as your own interests; and let no unworthy thoughts of possible interest or influence induce an activity which in the long run not only must be disadvantageous to you personally, but also detrimental to the profession as a body.

The highest principles of morality should be the guide in professional practice, not only in regard to art, but also in all dealings with employers, contractors, tradesmen, craftsmen, and others with whom business relations bring you in contact. Work cannot be obtained without employers, nor carried out without tradesmen and labour of all sorts, and your success is bound up with these; therefore it is to your interest to treat all with a high-minded, unsparing sympathy. The architect should, on principle, enrich his mind and render himself proficient in all branches of his work, as his duty to his clients, and should deal fairly and avoid harshness in dealing with those over whom he is set as a supervisor.

A high principle in these directions would avoid much of the litigation and many of the unsatisfactory arbitrations so constantly arising. It wants a kindly spirit united to a firm will—the iron hand in the velvet glove—to perform all an architect's duties in the highest manner, and to render the architect and his profession honoured and respected by the public and those with whom he has business.

Always remember the words—

Thy credit wary keep, 'tis quickly gone,
Being got by many actions, lost by one,

and our reputations are the immortal part of ourselves.

Principle also should not only lead you to strive after success in your own practice, which is, of course, your high duty to yourself, but also to aim at helping others who may have less experience or knowledge than you have, and thus assist in elevating your profession. With this view you cannot interest yourselves too much in the work of this Institute, whose objects are to encourage the art of architecture, to uphold the interests of the profession, and improve its status. This obligation will be best served by a large-minded way of looking at all sides of thought, and by cultivating broadness of views in our art of architecture, with a proper consideration for the sentiments of others, and not by the pushing forward of any particular school or clique.

In combination we are strong; separated we are comparatively weak. There is room in this Institute for all architects who are capable and honest in their views and endeavours, and the wider the circle of thought it enfolds, the greater the sphere of its usefulness will be, and the more it will foster education and dispel ignorance, and maintain the reasonable humility that should distinguish all those who claim to be artists; for, as Prior says:

By ignorance is pride increased:
They most assume who know the least.

REVIEW OF WORKS SUBMITTED FOR PRIZES AND STUDENTSHIPS 1901.

By J. ALFRED GOTCH [*F.*], F.S.A. (Kettering).

Read at the General Meeting held on Monday, 25th February 1901.

IT was with a considerable amount of diffidence that I accepted the invitation to criticise the students' drawings this year. I knew, when answering the Secretary's urgent inquiry, that among those who had undertaken this duty in the past were men well known for their ability as architects; but had I known more exactly who those men were, I should hardly have had the temerity to thrust myself into their company, especially having in view the difficulty of the task. And yet—as, no doubt, many of you have felt when entering for one of the prizes which are the subject of these remarks—it is often the difficulty of a task which is one of the chief incentives to undertaking it. At any rate, I feel that my work this evening is extremely arduous. I emerge from the obscurity of a country town, and the pursuit of a practice which does not involve the solution of such problems as you have been attacking, to pass judgment upon the work of men who are, most of them, far better draughtsmen than I ever was, or ever shall be. However, every man has a right to his opinion, if it is carefully and honestly formed, and I should be loth to pose as an exception to the rule; and if you do not agree with my estimate of your work, you will, I hope, give me credit for having founded it on good faith.

There will be one novelty, at any rate, in the criticisms of to-night, and that will spring from the, I believe, unprecedented fact of the critic having read the Essays, and upon these he will first venture to offer a few remarks.

An Essay such as the Institute seeks should, first of all, have some literary merit, always granted, of course, that it deals adequately with the subject in hand. The subject should be handled in a manner broad and yet pointed. If you are writing about Cæsar, we do not want long disquisitions about Cæsar's wife, however great her influence over her husband may have been. If you are asked for a history of Cæsar, do not spend much space upon Pompey's opinion of him, however interesting that may have been. So, too, with the illustrations, they should be to the point also; they should elucidate and enforce the arguments and the statements of the text. Give us portraits of Cæsar by all means, but do not throw in portraits of his distant relatives who have nothing to do with the story. But, to be of any use, the Essay must have life; it must be readable. To be readable it need not be flippant, but it must not be dull. Too much learning has a tendency to overwhelm the author, as the knight was smothered in his armour; and when you go to the Wallace Collection, you wonder how so many escaped suffocation. Allusions and quotations there should be, but not so recondite as to offend the less informed reader; and humour should also be there, but quite subdued. Like the onion in Sidney Smith's salad, it should

Lurk within the bowl,
And, unsuspected, animate the whole.

Of the Essays submitted this year one was readable and to the point, but had no illustrations; another had less of the first two qualities, but had many illustrations, some of which, however, were beside the mark; the third was fairly to the point, but for its style, as Holofernes said of the poetry in Don Armado's verses, "for elegancy, facility, and golden cadence, *caret*."

I sometimes wonder why there are not more Essays submitted, and why their quality is not better. It is a matter worthy of reflection, for, taking us architects as a whole, we are singularly lacking in literary style and in the facility for expressing ourselves in a manner at once attractive, elegant, and lucid.

The next subject in the order of the official list is that of Measured Drawings of Ancient Buildings, of which eight sets were submitted. It is a significant sign of the times that one of the prizes should be taken by drawings of a building so late in date as St. John's, Westminster, and that the Silver Medal and the other prize should have gone to those of Elizabethan houses, leaving what Gothic buildings there were without reward. But the justice of the award will hardly be questioned even by the unsuccessful competitors. The Gothic drawings were hardly up to the requisite standard in two of the cases; whilst the third presented such an intricate mixture of small scale, large scale, and full-size drawings on every sheet that the mind reeled in the endeavour to unravel them. It is a curious fact that the Silver Medal and one of the others have been given to drawings of two buildings in the same county—Kirby Hall and Burghley House—both of them masterpieces of the Elizabethan period. I should be the last to quarrel with this selection, whether of the students or the Council, but I should greatly regret to see Gothic work disappear, even temporarily, from this competition. So far as mere draughtsmanship goes, its study is even more arduous than that of Elizabethan work. That, however, is not the only point to be considered, and it is to be hoped that the taste of the rising generation in selecting subjects of study will be as catholic as ever.

Although not next on the official list, it will be convenient to take the allied subjects of the two studentships next in order, and first for the Pugin Studentship—perhaps the most fascinating of all the prizes offered by the Institute. For it is earned, not by laborious plodding in a dull office, not by a consideration of dreary formulas, or a study of the wants of man in his various capacities as the user of a club, or a stroller in a park, or a foot-passenger desirous of crossing a stream, but in delightful journeys from one village to another, either in our own richly endowed land

Or by the lazy Scheldt or wandering Po;

journeys in which every sketch has its own memory—the quiet of a country church, the gloom of a castle guard-room, the rain pattering on lead roofs, the sun drawing shadows across lichen-covered walls, amid the scent of old-fashioned flowers and the hum of the distant reaper. That is how the Pugin is earned, and it is spent in a more systematic prolongation of the same delights. Yet, after all, the Pugin is only a means to an end. Its object is not merely to make young men facile sketchers, but to lead them, through the observation of the work of the men of old, to do their own better.

The winner this year, Mr. Cotman, has worthily won the prize. There is a variety of subject and of treatment about his sketches such as none of the other competitors attains. His perspective is accurate; his figures are delightful. He attacks the Gothic work of Lincoln Cathedral with as much address as the Renaissance of the Council Chamber at Oudenarde. Not only does he give us finished drawings, but, what is more important, pages from his sketch-books just as they left his hand. In this respect the other two prize-winners, Mr. Forbes-Smith and Mr. Pitcher, are shortcomers. Their sketches are clever, and the subjects are varied; but of that intimate relation between the hand and the book which tells us so much we see little. Mr. Shirley Harrison's sketches are free, clever, and accurate, but they

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are, as it were, his speeches, not his homely talk. The same may be said of Mr. Cook's drawings, which also are excellent. Of the other sketches some are too laboured, and others hardly strong enough. There is one thing which I should like to see practised more than it is, and that is sketching in ink instead of pencil. Its tendency is to induce accuracy—for there is no rubbing-out possible—and to impart a sure touch and vigorous handling.

For the Owen Jones Studentship there were six excellent sets of sketches submitted, and here again the winner of the Studentship, Mr. Hervey Rutherford, was easily first in the variety of his work. Both in drawing and colouring his sketches were admirable; and it is satisfactory to find that in this competition, as well as in the Pugin, the quality of the studies tends to improve year by year rather than to deteriorate. I endeavoured to note those drawings which struck me as being the most pleasing or remarkable, but I find that in Mr. Rutherford's case I was obliged to say "all."

The high standard attained in this competition is proved by the fact that, in addition to the Studentship itself, there were three Honourable Mentions awarded, and it is worthy of note that out of the four prizes three go to Edinburgh. The three gentlemen who obtained Honourable Mention were Mr. Percy Nobbs, whose beautiful water-colour sketches of buildings were among his most pleasing contributions; Mr. Ramsay Traquair, whose best work came from abroad, and included some gay Spanish tiles, and some delightful intarsia panels from a church in Milan; and Mr. E. H. Bennett, whose facility with his brush was not surpassed by any of the others, nor his appreciation of colour; but the somewhat meretricious style which he adopted in his most important contributions undoubtedly told against him. They were very clever, but cleverness is only one of the factors which go to win a students' prize. It is highly important that this should be so, for there is a very general tendency to worship cleverness for its own sake, apart altogether from the nature of the thing upon which it may be bestowed. Clever drawings, like clever people, are sometimes both shallow and disagreeable.

There was one point among these colour sketches which afforded food for reflection, and that was that there were two representations of the same subject, an enamel plaque of Geoffrey Plantagenet, in which there were two entirely different versions of the colour. Which was the more correct rendering of the original it was of course impossible to say, but it was not difficult to decide which one hoped was the real colouring. So, too, of a panel from Ranworth Church. Mr. Rutherford had one version, and two of the Pugin competitors had each his own, and they all three differed from each other materially. It might perhaps be well for students, when engaged upon such work by themselves, to bear in mind that some other student may come along, and eventually exhibit the same subject on the same wall at the same time as the first comer.

We now come to the three competitions which involve design as well as draughtsmanship, and of these the first is that for the Soane Medallion. Now, as there were twenty-two designs submitted for this, twenty-six for the Tite Certificate, and eighteen for the Grissell Medal, comprising a total of nearly 300 strainers, you will forgive me if I am unable to exhibit a very profound knowledge of the contents of each strainer. You will, perhaps, even go further, and forgive me if, of the sixty-six designs submitted, I do not mention all. Indeed, it was impossible to master the main points of every design, let alone the minutiae; and if there was any particularly pet piece of design which I fail to mention, you must not conclude that it was not there, but that I failed to notice it.

This great increase in the number of designs submitted is very gratifying; we may conclude that it indicates among students an increasing interest in their work. Whether it also

implies an increasing slackness of work in the respective offices to which they are attached I do not know! We may also say that with the increase of numbers the number of fairly good designs has proportionately increased. It is not merely the fringe that is longer, but the garment itself. At the same time, so far as the Soane is concerned, the increase has not produced the master-hand; and this competition must be pronounced disappointing on the whole. It is no secret that the reason which led the Council to withhold the Medal was the absence of a really good plan; and it is of the utmost importance to impress upon young designers the vital necessity of a good plan. There was more than one design in which the plan was sacrificed for the preconceived necessities of the front façade. As a matter of fact neither plan nor elevation should be preconceived; they should grow up together. It is quite as much from the influence of modern life upon the arrangement of our buildings as from the introduction of new materials that we may look for the characteristics of a latter-day style. It should be borne in mind that the money prize accompanying the Soane Medallion would represent a very fair premium even in a competition for an actual building; it is therefore worth taking as much pains for as if the Soane building were actually to be erected; and to perfect the designs of an important building actually to be erected, no pains are excessive.

But there is about the Soane competition an absence of enduring responsibility which surely ought to stimulate the imagination and prompt young men possessed of all the freshness and daring of youth to embody some of the lofty ideals which they must have conceived. Do we find much daring originality among the twenty-two designs submitted this year? I can hardly say we do. It is true that out of that number there are seventeen or eighteen which, so far as their external appearance is concerned, might be built without materially decreasing the sum of human happiness. But is there one which could be regarded, even by the most enthusiastic, as epoch-making? However, we cannot reasonably expect a new epoch to be started every year, and although, from this particular point of view, my remarks may have been disparaging, yet, if we apply a more ordinary standard, there is something to gratify us in nearly all the designs. My own feeling is that the most poetic in conception is the design with the motto "Ars," by Mr. M. J. Dawson; but "Hiawatha" (Mr. H. M. Cautley) has a simple and dignified façade; and "Ionic" (Mr. J. B. Fulton) sends, as might be expected, an extremely fine set of drawings. The elevation of Mr. Fulton's front façade I thought the most attractive of the whole series, but the perspective brings out one or two weak features, particularly the long segmental pediments at either end, which spring from solid abutments, but which are themselves too thin, being perhaps twelve or fifteen feet long by seven or eight inches thick. I know that that particular feature is fashionable now, but even that fact fails to recommend it.

As far as mere draughtsmanship goes, the competitors may be congratulated; for out of the twenty-two sets there are very few which would have to be excluded on this account, and quite half of them are as good as anyone could wish. They are in varying styles: two, which happened to be placed together, illustrate extreme examples. "Elsa" sends delicate pencil drawings, with all the detail very nicely put in; while his neighbour "Thor," like his somewhat boisterous namesake, has a heavy and determined hand, expressing itself in lines of amazing thickness. Nevertheless, there seemed to me to be a considerable amount of originality about the general disposition and some of the detail of "Thor's" elevation, and it had at least the distinction of not conforming to that particular rendering of late classic which is so much in vogue at present. In many of the sets there were various little bits of happy design, such as must have given pleasure in the producing, and will continue to give pleasure in the contemplating; and although no one succeeded in carrying off the Medal, yet the mere fact of

having attacked the problem, and endeavoured to solve it, will bring a certain amount of reward with it to all who really set their minds upon the task.

Turning now to the Tite Certificate we find a subject requiring less elaborate preparation than the Soane, for an Entrance Gateway to a Public Park has less complicated requirements than a Club. Either this fact or something else has attracted a large number of aspirants, and the result has been the production of a considerable number of passable designs and a few very good ones. The proportion, however, of those which, if erected, would give satisfaction, or, at any rate, fail to inspire regret, is not so large as in the case of the Soane; for here I can only conscientiously admit fourteen out of the twenty-six. The notions of what was intended by an Entrance Gateway to a Public Park appear to vary considerably among the competitors, as do the ideas of what the Tite Prize was founded for. It was founded for the study of Italian architecture, and how that can be reconciled with a design which consists, like "Le Nord's," of a marvellous mixture of French Renaissance, Dutch gables, Genoese ornament, English eighteenth-century windows, and telegraph wires in the sky, it is not easy to see. As to the accommodation to be provided, some competitors were content with an archway only, others included a porter's lodge, and one had an extensive frontage of such attraction that two steamboat piers were provided for the traffic it was likely to occasion. Nevertheless, although the design was rather too vast, its detail was to the point; and I, for one, am not going to quarrel with "The Bard" for exercising his imagination. The awards made by the Council meet the merits of the case, for "Corona's" design is dignified and interesting, and shown in a well-drawn elevation and perspective. "St. George" is also simple and fairly dignified, but it has the appearance rather of a subsidiary entrance to an important park than its chief gateway. The drawings are well executed, and include some capital metal-work in the gates; but they are not altogether free from what I cannot help considering the rather widespread vice of affectation. It is not so rampant here as in some of the other sets in this competition and the Soane, but I think I detect it in the balloon-like drapery of the statuary and the hard, marble-like clouds. The third premiated design, by "Marble Arch," is also simple, dignified, and well drawn.

I must take the opportunity afforded by these remarks on students' drawings to protest against the affectation already mentioned as being prevalent among certain draughtsmen. It affects the accessories chiefly: skies are made to look like masses of telegraph wires, or are divided into parallel strips of dark cloud divided by thin regular lines of sky; figures are introduced hard and badly drawn, imitating the unpleasant style of Aubrey Beardsley. Sometimes the building itself suffers: coarse lines obliterate all delicate detail—and it should be borne in mind that very often "thick lines hide thin designs"—or the elevation and perspectives are put in with quivering, hand-drawn lines. These are only some of the forms which affectation takes—and occasionally with the hope of attracting attention which would never be bestowed upon the design itself. All such devices ought to be eschewed by a broad-minded student.

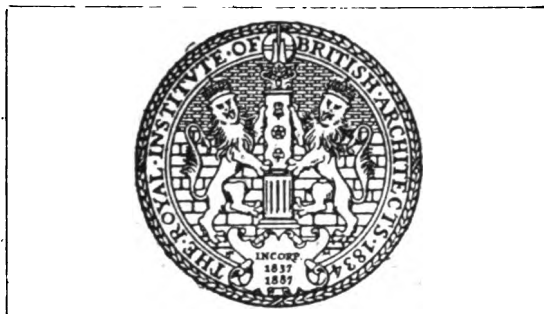
But let no one be discouraged by finding that he is not so expert a draughtsman as his neighbour. Drawing and designing are by no means interchangeable terms, and a study of the lists of past prize-winners may not only gratify the prize-winners of to-day, but go far towards comforting unsuccessful competitors with the thought that though their names do not appear on any of those lists, they may, nevertheless, be ultimately written in some corner of the scroll of Fame.

But there still remains the Grissell Medal, for which eighteen designs were submitted.

The subject is a simple one—a Timber Footbridge across a Stream—and it has brought forth from their modest retirement several designers of unambitious aims. Ambition should be made of sterner stuff than they appear to offer. But there are several designs which appropriately meet the case, and give us clear, simple, constructional, and yet eye-able results. As I am just now playing the part of a critic, I will venture to do that which I should otherwise refrain from doing, and that is to say that I hardly agree with the Council's award in this case. Not that the successful design is not pleasing—it is, perhaps, the most monumental of all. But the Grissell Medal is primarily offered for problems in construction: the problem here is a Timber Bridge; and I venture to think that the covering of "Pons Asinorum's" bridge is treated in a manner more suitable to stone than to timber; it is, indeed, strictly speaking, mere surplusage. The bridge itself is constructionally designed, but so are many others, and one or two of them have coverings which, in my opinion, are more constructionally designed than that of the prize-winner.

The ideas about this bridge vary as much as those concerning the Club and the Gateway. Some competitors are content to cross the stream in the simplest and cheapest way possible, in such a manner as would endear itself to the heart of an economical railway director; others prefer to lounge over the water under cover of a roof. Most of them cross at the level of the ground on either side, but one provides for somewhat lofty traffic on the stream, and makes his foot-passengers climb a staircase at each end. One competitor, forgetful of the main object of the work, elaborates the detail of his stone piers too much. Taking the whole set of designs, there is hardly so large a proportion of success as in the other two competitions. This is perhaps hardly to be wondered at, because the problem involved in the Grissell competition is one of the most difficult which architects have to solve, namely, to make construction itself beautiful.

Gentlemen, I have said my say. I am afraid you will not find your doubts and difficulties much lessened by my remarks and criticisms. I could wish that the individual allusions had been more numerous, but as a matter of fact the designs themselves were too numerous to admit of it. No one need take umbrage at what I have said, for I regard these efforts on your part with too much respect to permit the use of flippant criticism. My desire has been to raise rather than lower the standard of endeavour, and if I may slightly paraphrase Brutus's words, I would say, "Who is here so vile that will not love his Art? If any, speak, for him have I offended."



9, CONDUIT STREET, LONDON, W., 9th March 1901.

CHRONICLE.

Addresses to Students and Presentation of Prizes.

The annual function of the Presentation of Prizes in the gift of the Royal Institute took place at the hands of the President on Monday, the 25th ult. The visitors present included several ladies.

On the screens were exhibited drawings representing the results of the tours of recent Prizemen. These comprised studies of colour decoration in Italy, Greece, and Spain, by Mr. John Stewart, *Owen-Jones Student* 1899, together with the Student's original design in coloured decoration of one of the aisle bays of the nave of St. Paul's; drawings and sketches of notable buildings in Norfolk, Lincolnshire, Northamptonshire, and Warwickshire, by Mr. James McLachlan, *Pugin Student* 1900; and the work done by Mr. Percy Erskine Nobbs during his tour in Italy as *Tite Prizeman* 1900.

The proceedings opened with the President's Annual Address to Students, which was followed by Mr. Gotch's Review of the Works submitted in the various competitions. The President, unhappily, was suffering from a severe cold and loss of voice, and at his request the Address was read by the Secretary.

After the distribution of the Prizes, Mr. John Slater, in proposing a vote of thanks to the President and to Mr. Gotch for their addresses that evening, observed that those of Mr. Emerson's friends who knew him before he accepted the Presidential Chair had looked forward with pleasant anticipations to his tenure of it, and it was no mere *façon de parler* to say that their most sanguine expectations had been more than realised. It was no easy matter to compose, for two or three successive years, Addresses to the General Body and to the Students; yet everyone who had heard or read those Addresses must agree that they only increased in adaptability and interest. With regard to the Address delivered that evening, it was not too much to say that every person present, whether young or old, would feel stimulated by it, and would get good and help from it. With regard to Mr. Gotch's review of the Students' drawings,

those who remembered Mr. Gotch's Presidency of the Architectural Association always looked forward to hearing him again in his *ex cathedra* utterances. The charming play of humour combined with critical acumen which characterised his Addresses and Papers was an intellectual treat, and gratifying to the most fastidious. Mr. Aston Webb, A.R.A., in seconding the vote of thanks, said he always looked upon this, the Students' night, as one of the most delightful meetings of the year, when matured experience met youthful aspiration and exchanged thoughts and ideas.

The vote of thanks was passed by acclamation and briefly responded to by the President.

Prizes and Studentships 1901-1902.

The pamphlet containing full particulars of the subjects set for the Prizes and Studentships 1901-1902 will be issued to members with the next number of the JOURNAL. The prizes and subjects are briefly as follows:—

THE ESSAY MEDAL AND TWENTY-FIVE GUINEAS, open to British subjects under the age of forty.—*Subject*: Essay on the Employment of the Order in Renaissance and Modern Architecture.

THE MEASURED DRAWINGS MEDAL AND TEN GUINEAS, open to British subjects under the age of thirty.—Awarded for the best set of measured drawings of any important building—Classical or Mediæval—in the United Kingdom or abroad.

THE SOANE MEDALLION AND ONE HUNDRED POUNDS, open to British subjects under the age of thirty.—*Subject*: Design for a Swimming Bath for Men.

THE PUGIN STUDENTSHIP: SILVER MEDAL AND FORTY POUNDS, open to members of the architectural profession (of all countries) between the ages of eighteen and twenty-five.—Awarded for the best selection of drawings and testimonials.

THE GODWIN BURSARY: SILVER MEDAL AND FORTY POUNDS, open to members of the architectural profession without limitation of age.—Awarded for the best selection of practical working drawings, or other evidence of special practical knowledge, and testimonials.

THE OWEN JONES STUDENTSHIP: CERTIFICATE AND ONE HUNDRED POUNDS, open to members of the architectural profession under the age of thirty-five.—Competitors must submit testimonials, with drawings exhibiting their acquaintance with colour decoration and with the leading subjects treated of in Owen Jones's *Grammar of Ornament*.

THE TITE PRIZE: CERTIFICATE AND THIRTY POUNDS, open to members of the architectural profession under the age of thirty.—*Subject*: Design for a Royal Memorial Chapel in the Italian Style.

THE GRISSELL GOLD MEDAL AND TEN GUINEAS, open to British subjects who have not been in practice more than ten years.—*Subject*: Design

for a Roof, in Iron, Concrete, and Glass, of a Picture Gallery.

THE ASPHITEL PRIZE: BOOKS VALUE TEN POUNDS.—Awarded to the student who distinguishes himself most highly in the Institute Final Examinations 1901.

THE ARTHUR CATES PRIZE: BOOKS VALUE TEN GUINEAS.—Presented by Mr. Arthur Cates at each Final Examination to the student (passing the examination) who submits the best set of Testimonies of Study together with certain additional drawings.

Copies of the pamphlet may be obtained at the Institute, price threepence each.

Building By-laws in non-Metropolitan Districts.

The Council having again brought before the Local Government Board the question of the Administration of Building By-laws in non-Metropolitan districts, the Parliamentary Secretary of the Local Government Board, Mr. Grant Lawson, has consented to receive a deputation from the Institute on Tuesday the 12th inst. The deputation will urge the views laid before Mr. T. W. Russell when they were received by him in October 1899 (*vide JOURNAL*, Vol. VII. p. 18).

As regards the Model By-laws, Mr. Long, President of the Local Government Board, replying to a correspondent, states that "he is deeply impressed with the vast importance of throwing no unnecessary impediment in the way of those local authorities who are endeavouring to deal with the question of housing of the working-classes, and he is, therefore, at the present time engaged in very careful consideration of the By-laws of the Board in order to ascertain whether alteration in any direction appears desirable, and if so whether such alteration could be made without any unwise relaxation of those standards which are considered essential for the public welfare."

Day Classes at the Architectural Association.

The Architectural Association has recently published its proposals for a new scheme for day courses of instruction. The establishment of day as well as evening classes, as part of the Association's educational scheme, was advocated by a Committee of the Association many years ago, when reporting upon the need for a more systematic training of young men entering the profession. The Committee stated that a strong feeling existed, especially among the leading members of the profession, that architects should allow their pupils additional facilities for study during office hours; and that if day classes were established attendance at them would soon be accepted by the profession as part of the ordinary work of pupils.

Early this Session a Committee was appointed to consider and report upon the matter. The

Committee consisted of Messrs. Cole A. Adams, F. T. Baggallay, R. S. Balfour, G. B. Carvill, Arthur Cates, B. F. Fletcher, H. L. Florence, F. T. W. Goldsmith, H. T. Hare, F. G. F. Hooper, P. J. Marvin, E. W. Mountford, Beresford Pite, W. A. Pite, H. W. Pratt, G. H. Fellowes Prynne, E. Howley Sim, H. D. Searles-Wood, W. Howard Seth-Smith, John Slater, Leonard Stokes, and Aston Webb, A.R.A. As a result of their deliberations a comprehensive scheme has been drawn up, and has received the approval of the A. A. General Committee. The proposals are as follows:—

1. That the Studio be opened during the day, and that day classes be established forthwith. The work in these classes and in the studio to be of a preparatory and supplementary nature suitable for those who have entered or are about to enter architects' offices as pupils.

2. That this branch of the work of the Architectural Association be known as the Day School, while the present classes be called the Evening School.

3. That the first course of studies be arranged to cover one year, but students to be afforded the opportunity of taking a second year in the Studio when they might also attend some of the Evening Classes.

4. That each year be divided into three terms, namely, Autumn, Spring, and Summer, consisting as nearly as may be of 18 weeks each.

5. That the work in the Studio be supplemented by a certain number of lectures on History and Construction, so that the students may better understand their work.

6. That a Master of the Studio be appointed at a salary to be fixed by the Committee, who shall deliver lectures on the History of Architecture and Elementary Building Construction. The Master to nominate an Assistant to help him in the Studio, such Assistant, if approved, to be remunerated as may be deemed expedient by the Committee.

7. That the Studio be open from 9.30 a.m. to 5 p.m. (1 p.m. on Saturdays), and that the Assistant Master be in attendance during these hours. The Master himself, however, would attend at stated times to instruct the students and deliver his lectures.

8. That the fee for the full course be 12 guineas per term, or 35 guineas per annum, but students taking only the lectures to pay a fee of 2 guineas per term for each course, or 5 guineas per annum. Students wishing to join the Day School must submit a letter of recommendation.

9. That after payment of the fees for the first year's course students shall be eligible for election as Ordinary Members of the Association without paying the usual entrance fee.

10. That students should be encouraged to cultivate a thorough knowledge of the French and German languages (if they have not already

acquired same), as these languages are particularly useful for purposes of study and when travelling abroad.

11. That the Studio Library be augmented as may be found necessary, and be available at all times when the Schools are open.

12. That the management of the School be under the direction of the Committee of the Architectural Association, assisted by an Advisory Board of eminent architects and other gentlemen.

18. That the following subjects be included in the curriculum :—

First Year's Course.

- (a) The use of instruments and scales.
- (b) Freehand drawing.
- (c) The five Orders of Classic Architecture.
- (d) The elements of the various Styles of Architecture.
- (e) The principles of Mechanics.
- (f) Elementary Construction.
- (g) Sketching and Measuring details and portions of existing buildings.
- (h) Thirty-six lectures on the History of Architecture (illustrated by visits to buildings and museums).
- (i) Thirty-six lectures on Elementary Construction and Materials (illustrated by visits to workshops and buildings in progress).

Each student will be expected to take up a course of reading under the direction of the Studio Master.

Second Year's Course.

- (a) Continuation when necessary of the subjects forming the first year's course.
- (b) Perspective and Sciography.
- (c) Descriptive and Applied Geometry and Graphic Statics.
- (d) Principles of Architectural Design.

Each student will be expected to take up a course of reading under the direction of the Studio Master.

N.B.—Students taking a second year in the Studio should attend such lectures or classes, day or evening, as the Master may advise.

The Master of the Studio will direct students as to their vacation studies.

Touching the question of finances, Mr. W. H. Seth-Smith, *President A.A.*, in an article on the new scheme in the current *Architectural Association Notes*, says :—"The only chance of loss is through the salaries of the teaching staff, and to insure this risk the aid of a few gentlemen who have always liberally supported the A.A. work has been enlisted as guarantors. Messrs. Aston Webb, Arthur Cates, Florence, and Waterhouse and Son subscribe £100 each, while Messrs. Baggallay, Hooper, Fellowes Prynne, John Slater, Lewis Solomon, Leonard Stokes, and David

Seth-Smith, with one other, make up the necessary £500. It is improbable that any part of our guarantee fund will be called up, as the Committee's carefully framed estimates of expenditure and revenue show a small profit on the working of the first two years on the basis of only twelve full-time students. If they can get twenty two-year-course students at Liverpool, we may surely expect as many in London."

The number of students attending the A.A. evening classes is roughly given as two hundred.

Architects' Benevolent Society.

The Annual General Meeting of the Architects' Benevolent Society will be held at the Royal Institute on Wednesday the 13th inst. Mr. William Emerson, the President of the Society, will take the Chair at five o'clock. The Meeting will be required to adopt the Annual Report of the Council, to receive the statement of accounts, and to elect the President, Council, and Auditors for the ensuing year of office. It will also be necessary to elect Trustees in the place of the late Mr. Charles Barry and Mr. Henry Currey. It is hoped that there will be a good attendance. The names and contributions of new members will be announced at the meeting.

Obituary.—News has just been received by telegram of the death of Professore Giuseppe Poggi, of Florence, Knight of the Civil Order of Savoy, the very old and valued Hon. Corr. Member of the Institute.

REVIEWS.

MODERN HOUSE CONSTRUCTION.

Principles and Practice of Modern House Construction. Edited by G. Lister Sutcliffe. 2 vols. in 6 divisions. 40. 1898-1900. Price 8s. each division. [Blackie & Son, Ltd., London, Glasgow, Edinburgh, and Dublin.]

"All that concerns the design and construction of houses in relation to the health and comfort of their inmates" is stated in the short prefatory note to this voluminous work as forming its purport; in itself an excellent one, and on the whole faithfully carried out. It is questionable, however, whether two large quarto volumes of over 500 pages each were necessary to such an end, and, as a matter of fact, owing to the complexity with which some of the sections are dealt with, and the number of writers engaged, a certain degree of overlapping and reduplication is to be found, and even divergence of view on the part of those dealing with the same subject. As an example, in Section I., devoted to Plan, by Professor Kerr, we find a single room illustrated in fig. 4 as a bad example, "very objectionable" in its arrangement

of door, windows and fireplaces as it is stated to be, and yet it is reproduced in all essential particulars in the library shown in a complete set of plans of a "model" house by Mr. G. Lister Sutcliffe, the editor, in the plates which form the frontispiece to the next section, that on Construction. In extenuation of the latter it must be said that we all know how much easier it is to plan a model room as an isolated diagram than to combine a large number of model rooms in a model house, with all the accompanying limitations arising from questions of construction, lighting, &c. In Section I. Professor Kerr is still Professor. Kerr: notwithstanding many publications dealing with the art of planning issued since the "English Gentleman's House" appeared, this portion of the work can best be described as a useful summary of the practical sections of the work in question. Comprehensive indeed is Section II., under the heading "Construction," written by the editor, although it may be noted in passing as remarkable that in a work issued conjointly in Glasgow and London, and under the direction of a Scottish firm of publishers, practically no attempt is made to deal with the practice in this and other matters north of the Border. Roof slates, it is stated, should be laid on boarding, "when the money can be spared"; battening the inside face of external walls is barely referred to, yet the absence of both is illegal under the terms of most of the Building Acts in force in Scotland. Again, "Rough-casting is a covering now seldom used for buildings as a whole, except in the case of cottages and farm-buildings," is an entirely misleading statement with reference to Scottish practice, in which, architecturally, this method of finishing outside walls is sanctioned by tradition from early times, and practically is found of the greatest value as a protection from the excessive dampness of the climate in many parts of the country. Not that it would so be found were the specification given by Mr. Sutcliffe adopted of "throwing a very thin paste of hot lime, coarse sand, and grit or fine gravel upon a wet plastered surface." After all, such minor matters apart, the descriptions of the various principles and processes involved in sound and sanitary building, from the foundations and the soil under them to the ridges and chimney-cans, are, generally speaking, both clear and trustworthy. Drains, as might be expected in such a book, bulk very largely indeed, this subject, with its concomitant one of water-supply, occupying no less than seven sections, entitled, respectively, Water-supply, Domestic Water-supply, Household Filters, Sanitary Plumbing, Sanitary Fittings, Drainage, and Sewage Disposal. The six authorities who deal with these various sides of the same subject (Mr. Henry Clay being responsible for two sections) supply some 400 pages of printed matter and illustrations between them. "In the multitude of counsellors

there is wisdom," even although, as King Solomon may have discovered, a certain amount of overlapping takes place. Certainly no information desired by the sanitarian seems to have been omitted, yet it would surely be possible for the architect or even the amateur house-builder to lay down (if necessary) a satisfactory water-supply, and to construct his drains, outside and inside, on practical and scientific lines without having read *all* that is here provided for his benefit.

In Section XI., dealing with Warming, it is somewhat disappointing to note the want of insistence, for a thoroughly healthy house, on the necessity of a system of heating *in addition* to the open fires, which no one would wish to see done away with. The argument of central heating *versus* open fires is an unfortunate but too common one with both the expert and the general public. What is wanted for the average house is a simple system of heating, unobjectionable in appearance, not too costly and not too scientific, as an auxiliary to open fires, so that the whole temperature of the house may be kept equable, or fairly so, while at the same time not excluding free recourse to the open window for ventilation. The simple warm-air installations fixed by Grundy and Constantine, among other makers in this country, supply this want admirably for houses of comparatively small area; while for larger mansions there is the "indirect" system, in which heat is supplied by stacks of hot-water radiators placed in the basement. Yet the former are not even referred to, the latter barely glanced at. Instead, the writer gives detailed disquisitions on boilers, &c., on a complete installation of radiators fixed throughout a house (a system which no one with any regard to appearances would admit), and one or two examples of foreign origin and extremely scientific nature. Mr. Wm. Henman, who follows with the section devoted to Ventilation, deals again with the subject of warming along with his own, the two being, as he truly says, interdependent, and sets forth clearly and simply the principles of and the many problems surrounding these operations in relation to the house.

The descriptions of Lighting—by candles, oil, and gas—and that of gas-producing apparatus, which occupy the first half of Section XIII., and the whole of XIV. and XV., require no special comment other than that they supply us with all the important data requisite in each case. The chapter on Electric Lighting is again too exclusively devoted to a scientific description of apparatus, while useful information regarding points, simple maybe, but important in such a book as this, is withheld. "The first point," the writer says, "to be considered is the number of lamps which will be required"; but, having said so, he does not consider it, giving none of the usual rules for proportioning the

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number of lights to the area in the various rooms. "Wall-sockets are often required in the drawing-room," it is stated; why there alone it would be hard to determine, but nothing is said as to the arrangement or placing of the lights in this or the other rooms, and that most delightful method of lighting—when expense has not to be considered—by reflection from cove or ceiling, is not even referred to.

"The Sanitary Aspect of Decoration and Furniture," Section XVI., considering that it is written by an M.D. (Edward T. Willoughby), is not so sweepingly destructive as might have been expected, and all lovers of refinement and dignity in our dwellings will agree with him in his condemnation of the general overcrowding of rooms with "the trivial and the useless." It remains true, however, that the "sanitary aspect" is not that which will be considered of first importance by most people when selecting furniture.

If the householder, architect, and builder have read and acted up to all that has so far been dealt with in these volumes, they need little fear a visit from the sanitary inspector; yet, in case human frailty should have proved too strong, the various possible failings are all dealt with again from that gentleman's point of view in Section XVI. After the inspection come the remedies, which have also a section to themselves, in which the specifics for damp walls, smoky chimneys, and—again and especially—defective drains, are set forth by the editor.

Climate and situation, although already treated by Professor Kerr, have still a section devoted to them. Supplementary chapters dealing respectively with stables and cow-houses and sanitary law, two appendices concerning building-stones and recent inventions, and a comprehensive index, bring to a close this—generally speaking—exhaustive (and for the reviewer, exhausting) work.

The diagrams and illustrations, it should be added, are copious and informative: it must be supposed, however, from the extremely mediocre style of architecture shown in most of the plates where buildings or parts thereof figure, that the editor has laid too closely to heart the rather one-sided aphorism of Bacon with which the prefatory note opens: "Houses are built to live in, not to look on."

Glasgow. ALEXANDER N. PATERSON, M.A.

OLD COUNTRY COTTAGES.

Old Cottages and Farm Houses in Kent and Sussex, Illustrated in 100 Plates printed in collotype from a Special Series of Photographs taken by W. Galsworthy Davie and E. Guy Dawber. With some descriptive notes and sketches by E. Guy Dawber. Large 8vo. Lond. 1900. Price 11. 1s. net. [B. T. Batsford, 94, High Holborn.]

In this book Mr. Batsford has published a charming volume, a luxury in the way of archi-

tectural literature, exceedingly well suited for a gift-book, admirably bound and in excellent taste, the type very clear, the margins wide, and the illustrations a series of finely printed photographic reproductions of ancient buildings. It is satisfactory to find that a further volume of like character is in contemplation.

Mr. Guy Dawber contributes some interesting descriptive notes and sketches, which show a considerable knowledge of the subject, and which put the gist of the matter in a very readable form.

As to the principal contents of the volume, a word of appreciation and praise is due to Mr. Davie for the exceedingly beautiful photographs. They are both studies and pictures; not only has Mr. Davie chosen his point of view in order to show as much of the buildings photographed as possible, but also he has apparently most carefully considered the grouping, and has produced photographs which are works of art.

At the commencement of his descriptive notes Mr. Dawber points out that it is in these humble buildings we must look for the most truly native English art. This is undoubtedly so; we expect to find less trace of outside influence, and simple means employed to meet simple wants.

Turning over the photographs we see what an excellent thing this humble building craft was; with what apparently enviable ease its followers produced the beautiful. It is true that these old buildings have the advantage of age, but that has only added a certain charming irregularity and richness of colour. Grouping, proportion, outline, mass, the shape of a chimney, bay or roof, the overhang of a gable—and all those things that go to make the architecture of the building—are not the result of age but of thought; and, to an architect, it is in such points, as well as in robust and characteristic detail and the right employment of material, that the charm of these houses lies.

But further, it is very necessary to point out—because the book does not lay the stress upon it which is desirable—how very much these houses assume their fascinating characteristics from their plan; and the plan again from custom, materials used, and many other considerations. Mr. Dawber devotes a lengthy space to the all-important subject of plan; but he does not give a single complete plan in illustration of the points raised. The old houses illustrated must contain many clever plans, and these cannot fail to produce their effect throughout the building. As a plan is the very alphabet of a structure, the book would have been much more valuable if, say, only half-a-dozen typical plans had been illustrated.

It is a curious fact that, although in old houses the rooms may not by measure be larger than those of an ordinary modern house, yet they often appear more roomy, and can contain more furniture with comfort. The cause of this lies in good proportion—the rooms not being mere cubical

boxes, but wide apartments; in the plans themselves being good; the houses well and effectively lit, without too much or too little window; and the various windows, fireplaces, and doors being well placed with regard to one another. It is in attention to points such as these that the comfort of a house depends, more than on a beautiful exterior, and one wishes that Mr. Dawber could have let us into the secret charms of some of these delightful houses.

Among so many beautiful things it is difficult to pick out those which are particularly charming. All who can should carefully look through the whole volume, bearing in mind that the most profitable subjects for practical purposes are not the half-timbered houses, but those with weather-boarded, tile-hung, or plaster fronts, or built entirely of stone and brickwork. In England half-timber work, as the everyday method of building, is past, having died out with the fine old timbers which were necessary for its production. At the same time there have developed great changes in craftsmanship, rendering it impossible to produce the effect of old work while not following the method or using the means to do so. But although this is so, all who are interested in bygone days and beautiful objects must be thankful to the authors and to the publisher for bringing before us, in such charming form, this tribute to the artistic value and beauty of one phase in the history of our native building craft.

Hitchin, Herts.

GEOFFREY LUCAS.

NOTES, QUERIES, AND REPLIES.

Collaboration of the Architect, the Painter, and the Sculptor.

From CLEMENT HEATON, Neuchâtel, Suisse—

The Report now published of the proceedings of the General Congress of Architects in London renews the actuality of the subjects then discussed. The collaboration of the architect, the painter, and the sculptor is one which suggests many thoughts, and the writer offers some contribution to the discussion, based on a practical experience under widely differing conditions. When similar results are observed in circumstances which preclude them arising from local causes, it may be supposed that one is in view of a general law worth noticing; and in the execution of architectural colour decoration in England, France, and Switzerland, in glass, mosaics, enamels, and painting, such a similarity has been observed.

It is with great respect one must think of the heavy and delicate task a modern architect is called upon to undertake. He must possess such an extensive range of knowledge and be equipped with such skill in work and business, one marvels the human brain can achieve so much. It is also a general experience to find relations with archi-

tecs extremely agreeable, and it is with a sympathetic spirit of offering help towards the attainment of the common aim of beauty that the difficulties which arise in working are discussed.

A craftsman realises how impossible it would be to deal with the many problems of architecture without the necessary training, and he realises also how impossible it is for anyone to judge of the details which craftsmen have to deal with without their training. It follows that their co-operation must ever lie at the basis of all architectural decoration; and, if so, the gist of the whole question is, what are the principles which should preside over this co-operation?

The architect starts out with an idea of the building as a whole, and necessarily every part is looked at from this point of view; whereas the craftsman comes to the part as his primary occupation, and his view of the whole stands related as a background to this part. The two minds meet then at a point which is approached from different sides, and this difference of standpoint governs the working of each all through.

The craftsman (inclusive of painter and sculptor) has nothing to do with the statics and other practical elements of the building. He comes fresh to the work with nothing to bother him, and it is constant experience that the sight of empty spaces, such as a bare brick wall, energises the mind, calls old memories into review, and elicits a number of images of what could possibly be done with such a canvas. This state of mental excitement caused by a fresh impact cannot be the state of mind of an architect, whose wall is already the realisation of ideas existing long before.

The building is, then, to the craftsman an occasion inviting an expression of energy, and the mind is stimulated to creation. The human spirit is there, ready to impress its mark on the material building made for men: and as we are impressed with the mentality of workers long passed away in old buildings, so will this impression of the human spirit affect future generations. This is surely not a little matter, and though it be true that mentality is impressed on every part of a building, it is true also that this mentality has greater scope in the details of it.

Here, then, are two minds in different states reacting on each other: how are they to secure the best result from their working? The reply can only be, when each acts strongly and freely within the limits which should govern each; and we must call on reason and experience to find what these limits are.

It may help us to see what they are if we notice cases which ought not to have been—what happens when the action of one mind hinders the working of the other.

It is of course very natural, when the whole building has grown up in the mind, to go on and decide for every part what should be done. And

in a certain way this is right; in another way, it is wrong. It cannot be possible, for instance, for a mind already burdened with so much, to decide on issues which demand a knowledge of technique in crafts—of the laws of colour, for instance; and yet this is sometimes done. Questions a craftsman will decide only after much thought, knowing the difficulties of the case, may be decided abruptly by an architect, simply because he sees no difficulties at all, and because to him the whole thing is but a detail. This is a constant cause of failure, and again and again work has been spoilt because at the very outset a wrong start has been made. The limitations of the material have perhaps been ignored, its peculiar qualities not brought out, or some law of colour or effect of distance been disobeyed. Or again, it is sometimes the case that an architect starts off by wishing a particular treatment in past work to be followed as a condition—and the human mind is so constituted that it can by no effort of will suddenly take up a line of thought so suggested if it has not spontaneously laid hold of the ideal to be followed. It is evident that if when certain memories of things seen, suggesting new images, are in full possession of the imagination, other things never seen perhaps are insisted on, the working strength is diminished enormously by the damping of the first enthusiasm, with consequent loss to society. Not only so, but positively a wrong way of working may be insisted upon from insufficient acquaintance with the details of a subject: as, for instance, when an architect insisted on mosaic work being executed entirely in one size of tesserae, faces and all, whereas at St. Mark's, Venice, it is seen that the tradition of work followed was to use small tesserae for the faces and hands, and larger ones for the draperies and backgrounds.

These are examples of the way in which the architect may exceed the normal limitations, and render it impossible for a craftsman to work rightly. It is equally true that the craftsman may transgress in other ways, and make most painful mistakes, and spoil a building by work intrinsically good in drawing, colour, subjective idea, and individuality, but wrongly started.

The whole tendency of modern art, by the stress which is laid on paintings exhibited in galleries specially lighted and arranged for view under ideal conditions, and where no unity of effect is possible, is to cultivate a habit of mind which rebels against the limitation of architectural decoration. One has heard a painter crying out against the exigencies of Gothic architecture which afforded only spaces like a thistle leaf on which to design. Or else, in another case, one has said the architecture was there to act as a framing to his picture. And it is not necessary to allude to the fact of numerous works existing, made by fine painters, which are entire failures from a decorative point of view, not in one, but in every

country. One need not take any other example than St. Mark's, Venice, to establish the fact. And decorators also, left alone, may go astray and get out of scale and keeping with the building.

In reality, then, things may go wrong from two ways, and it is difficult to say which is more harmful, work right in scale, &c., but wrong and dead in execution, or work full of life and power produced on wrong lines architecturally.

Architectural decoration is therefore a very delicate thing, and as it must be a matter of co-operation, what is required, and what is becoming seen to be required, is a basis of sympathetic discussion, reaction of mind on mind, in which the limits for each side can be brought into full view and a course of action be taken which will be suitable to each. If this is done, the craftsman will feel free, and the architect be at rest as to the result. And having started on right lines the difficulties inherent in each case can be met, with the certitude of reaching a right solution; and hope stimulates effort.

The whole thing can perhaps be summed up under the words *sympathy* and *life*. At least, so it used to be. The *maitre de l'œuvre* was the centre, and all action was taken in sympathy with him, but in such freedom that any old work is full of life and spontaneity; and this redundant life, working in every part in sympathy with a common whole, is the true glory of architecture and the secret of its delight.

As we have named the later mosaics of St. Mark's, let us take the case of the mosaics at Ravenna. What could be better than the harmony which reigns between the general design and the design of the colour decoration? or between this same design and the technique of the work? or between the technique and the colour? It is all in tune, and the pieces added in recent years start out to view as a note out of tune. The beauty of this work is neither in the architecture alone, nor in the design, nor in the colour, nor in the technique (and we see mosaics, wrongly treated, may be horrible), but in the harmonious relationship of every part. To ensure success we must aim at this same union, and any true craftsman will welcome the criticisms of the architect when he is fully bent on reaching this result as the most helpful means to attain it.

It follows, then, that architectural decoration is a special craft, requiring special knowledge and experience, great delicacy of judgment, and a habit of working under limitations in co-operation. If this is not a lost art, it is an art which has been lost to view as such, for a specialist of this kind has found himself in a kind of no man's land, an artist unrecognised as such by the public.

To prosecute such a vocation the mind must be stored with knowledge complex and extensive.

Knowledge of drawing, design, colour, of one or more crafts, must be supplemented by a historical knowledge of architecture as far as its decorative elements are concerned. "Architectural holidays" and research in museums are as necessary as to an architect. Yet in all this the point of view is different.

If in this opening of a new century we can look forward to working on better lines, it will be by the cultivation of sympathetic co-operation by the interchange of thought, and the discussion of general principles should precede or accompany examination of special cases.

Degrees in Architecture at University College, Liverpool.

From Professor F. M. SIMPSON—

I have been asked to forward to the JOURNAL some particulars of the Degree Scheme in Architecture which was passed, in November of last year, by the Victoria University. Of the three Colleges of the University—Owens College, Manchester, University College, Liverpool, and the Yorkshire College, Leeds—the Liverpool College is the only one at present holding architectural classes.

The degree which will be conferred on students is Bachelor of Arts (Honours in Architecture). The accompanying Paper* gives particulars of the course of study, but a few words of explanation may be necessary.

The course is for three years. Candidates are required to pass the Preliminary Examination of

the University in (1) English Language and English History, (2) Mathematics, (3) Latin, (4) Elementary Mechanics, (5) One of the following: Greek, French, German. It is intended that this shall be passed before the three years' course of architectural study is commenced, but it may be passed at the end of the first year. Candidates are further required to pass the Intermediate Examination of the ordinary B.A. degree in three subjects to be selected. This examination can be taken at the end of the first or of the second year, but when the scheme gets into thorough working order it is hoped that it will always be passed at the end of the former. When this is done the two last years can be devoted entirely to the study of architecture and allied subjects, as set out on the accompanying Paper.* The compulsory and optional subjects of the Final Examination are also stated there, as well as the *minimum* attendance necessary.

My reasons for bringing forward this scheme were briefly these:—

(a) The value to a man in after life of a good general education, especially in the liberal arts, is universally admitted.

(b) In Liverpool, and in the North of England generally, it is customary to remove boys from school at the age of sixteen or seventeen, when their training is incomplete and their capacity for acquiring knowledge still undeveloped.

(c) Since I started classes here I have always advised students to continue their liberal studies in the University Classes *before* taking the two years' architectural course, but without success. The advantages of doing so were not sufficiently obvious; the further pursuit of these studies led to nothing in particular, and the year to be spent on them was regarded as time wasted.

(d) Students who come straight from school have not, as a rule, *learnt how to learn*. The few students I have had who have previously taken their B.A. degree at Oxford or Cambridge have done their work in half the time that others take and twice as well; partly because they were older, but principally because they were trained.

(e) The ideal scheme, doubtless, is for students to take their B.A. degree first, and commence their architectural training afterwards. But this course is impossible with the majority. It means five years, at least, after leaving school before their preliminary training is finished; to be followed by a term of years in an architect's office before they are competent to practise.

(f) The three years' degree scheme, now started, will effect a saving of time without curtailing unduly either the liberal or the architectural subjects. The course will ensure that in the general subjects the required standard shall be sufficiently high, without being unnecessarily so, and that in the special architectural work all students shall have, in addition to a knowledge of

* The following is the Paper referred to:—

The Victoria University. Honours School of Architecture.—Regulations: Candidates are required to have passed the Preliminary Examination as prescribed for the Faculty of Medicine in the first paragraph of Regulation V. 2 (*Kalendar*, p. 89).

Candidates are required to have passed the Intermediate Examination for the Ordinary Degree of B.A. in the following subjects (see *Kalendar*, p. 80): (a) One of the following: Greek, Latin, French, German, Italian. (b) One of the following: Ancient History, Modern History, English Literature. (c) One of the following: Physics, Pure Mathematics, Applied Mathematics.

A. Subjects of Examination: (a) History of Ancient and Medieval Architecture. (b) History of Modern Architecture. (c) Construction and Planning of Buildings, including sanitation. Graphic Statics. (d) Architectural Drawing.

And any two of the following: (e) Freehand Drawing. (f) Modelling. (g) Decorative Design. (h) Applied Mechanics. (i) Art and Theory of Painting. (j) Art and Theory of Sculpture.

B. Attendance. Candidates are requested to present certificates of having attended—1. The approved classes for the subjects presented in the Intermediate Examination. 2. Courses of instruction in Architecture and allied subjects averaging not less than five hours a week in the first year and fifteen hours a week in the second and third years. Such courses shall include all the subjects presented for examination. An attendance of not less than fifty hours in the Department of Engineering is required from all candidates.

drawing, building construction, &c., that acquaintance with the general principles of the architecture of the past which, nowadays, I hold to be absolutely essential.

(g) The scheme has this advantage also, that this study of the masterpieces of the past will form part of a liberal education, and be acquired *before* students commence their more intimate acquaintance with practical problems. It is important that from the first architectural students should obtain an insight into what architecture is and what it has been.

The decision of the Victoria University to grant a degree in Architecture marks a new departure in academic procedure in this country. It is a departure which I feel may be followed with advantage by other new universities which, founded with somewhat different aims from those which animate the older Universities of Oxford and Cambridge, have important work to do in associating the higher teaching in the arts and sciences with the more technical training which especially fits men for professional careers.

University College, Liverpool: 23 Feb. 1901.

LEGAL.

The Architect in Relation to the Building Owner and the Builder: Arbitrator or Agent?

CHAMBERS V. GOLDTHORPE.—RESTELL V. NYE.

The first of the above cases came before the Court of Appeal (the Master of the Rolls, Lord Justice Collins, and Lord Justice Romer), on the 26th and 27th February, on appeal by the defendant from the judgment of the Divisional Court (Mr. Justice Channell and Mr. Justice Bucknill) reversing the decision of the Judge of the Holmefirth County Court. The plaintiff, who was an architect, sued for fees. The defendant counterclaimed for negligence. The following report is from *The Times* of 28th February.

The plaintiff had been employed by the defendant, a building owner, to prepare plans for houses which he, the defendant, was about to have built, to superintend the work, and to measure it up when completed. The defendant entered into a contract with a contractor, whereby the latter was to build the houses. This contract was in the printed form approved and issued by the National Association of Master Builders of Great Britain. Clause 1 of the contract provided that, in the construction of the contract, the term "architect" was to mean the plaintiff, the architect for the time being employed by the defendant to superintend the erection and completion of the works. Clause 8 provided that "any authority given by the architect for any alteration or addition in or to the works is not to vitiate the contract, but all additions, omissions, or variations made in carrying out the works, for which a price may not have been previously agreed upon, are to be measured and valued, and certified for by the architect, and added to or deducted from the amount of the contract as the case may be, according to the schedule of prices annexed, or where the same may not apply at fair measure and value." By Clause 16 the contractor was to complete the whole of the works within five months after their commencement, unless the works were delayed from certain causes, for which due allowance was to be made by the architect, and

then the contractor was to complete the works within such time as the architect should consider reasonable, and in case of default the contractor was to pay a certain sum per week by way of liquidated damages until the works were completed, provided that the architect certified in writing that the works could have been reasonably completed within the time appointed. By Clause 19, after providing for the architect giving interim certificates as the works progressed, when the works were completed, or possession of the buildings given up to the defendant, the contractor was to be entitled to receive one moiety of the amount remaining due, and the architect was to give his certificate accordingly, and the contractor was to receive the balance of all moneys payable under the contract within three months from the completion of the works or from the date of giving up possession, whichever first happened. By Clause 20, "a certificate of the architect, or an award of the referee hereinafter referred to, as the case may be, showing the final balance due or payable to the contractor is to be conclusive evidence of the works having been duly completed, and that the contractor is entitled to receive payment of the final balance. . . ." By Clause 22, "provided always that in case any question, dispute, or difference shall arise between the proprietor," that is, the defendant, "or the architect, on his behalf, and the contractor as to what additions, if any, ought in fairness to be made to the amount of the contract by reason of the works being delayed through no fault of the contractor, or by reason or on account of any directions or requisitions of the architect, involving increased cost to the contractor beyond the cost properly attending the carrying out the contract according to the true intent and meaning of the signed drawings and specification, or as to the works having been duly completed, or as to the construction of these presents, or as to any other matter or thing arising under or out of this contract, except as to matters left during the progress of the works to the sole decision or requisition of the architect under Clauses Nos. 2, 10, and 11, or in case the contractor shall be dissatisfied with any certificate of the architect under Clause No. 8, or under the proviso in Clause No. 16, or in case he shall withhold or not give any certificate to which the contractor may be entitled, then such question, dispute, or difference, or such certificate, or the value or matter which should be certified, as the case may be, is to be from time to time referred to the arbitration and final decision of an architect being a Fellow of the Royal Institute of British Architects, to be appointed at the request of either party by the President for the time being of such Institute, and the award of such referee is to be equivalent to a certificate of the architect, and the contractor is to be paid accordingly," such award or certificate may be made a rule of Court. After the houses were completed the plaintiff measured up the work done, and gave his final certificate. The plaintiff having sued the defendant in the County Court for the amount of his fees—namely, 4 per cent. upon £622 14s., the total cost of the work—the defendant counterclaimed for negligence by reason of the plaintiff having incorrectly measured up certain of the work done, whereby the certificate was for a larger amount than it ought to have been. The County Court Judge gave judgment for the plaintiff on the claim and for the defendant on the counterclaim for damages to be assessed. The Divisional Court held that the architect was, under Clause 20 of the contract, placed in a judicial position between the building owner and the contractor with reference to giving his certificate, and, therefore, was not liable for negligence. They accordingly entered judgment for the plaintiff on the counterclaim. The defendant appealed.

Mr. Lowenthal appeared for the defendant, and Mr. Scott Fox, K.C., and Mr. R. W. Harper for the plaintiff.

At the close of the argument, the Master of the Rolls said that the Court would hear the case of *Restell v. Nye*, in which it was understood a similar point arose.

The case of *Restell v. Nye* came on as an appeal from the judgment of Mr. Justice Mathew on the trial of an action without a jury.* The action was brought by a building owner against an architect to recover damages for negligence.

The defendant was employed by the plaintiff as architect in connection with the building of a bungalow for the plaintiff in Sussex. The terms of the employment of the defendant were contained in certain letters which passed between the parties, from which it appeared that the defendant was to be paid by the plaintiff for "plans, specifications, and supervision of works" 5 per cent. upon the amount of the expenditure, travelling and out-of-pocket expenses to be charged extra. The defendant prepared a specification, and a tender submitted by a firm of builders at Brighton for the erection of the bungalow for £1,790 was accepted. A building contract was signed by the plaintiff, which provided that the price should be paid by instalments upon the defendant's certificates, and that his final certificate should be conclusive evidence that the builders were entitled to receive payment of the final balance. The work was completed, and the plaintiff paid the contract price together with the cost of certain extras on the defendant's certificates. The plaintiff alleged in this action that the defendant had omitted to check the builder's accounts with due skill and diligence, and had passed as extras works included in the contract, and had certified for sums improperly passed. The building contract was in substance the same as that in the previous case of *Chambers v. Goldthorpe*. The only clause in which there was any material variation was the arbitration clause, which was as follows:—"Provided always that in case of any question, dispute, or difference arising between the employer or the architect on his behalf and the contractors attending the carrying out of the contract according to the true intent and meaning of the signed plans and specifications, or as to the works having been duly completed, or as to the construction of these presents, or the said specifications, or as to any other matter or thing arising out of this contract or the execution of the works hereby contracted for (except as to matters hereinbefore left during the progress of the works to the sole decision of or requisition of the architect), then such question, dispute, or difference is to be from time to time referred to the arbitration and final decision of Mr. Samuel Denman, or, him failing, Mr. Hunt, and the said referee's charges and costs of and incidental to the reference shall be paid by such parties as the referee shall direct, and the said reference shall be con-

sidered a reference to arbitration within the meaning of the Arbitration Act, 1888, or any statutory modification thereof, and no proceedings whatsoever shall be taken by the contractors against the employer until the contractors shall have obtained and save upon the award of the said referee, whose appointment shall be irrevocable." Mr. Justice Mathew gave judgment for the defendant on the ground that he was in the position of an arbitrator, and that an action would not lie against him for negligence.

The plaintiff appealed.

Mr. Bray, K.C., and Mr. Morten appeared for the plaintiff; Mr. Horton Smith (Mr. Boxall with him) for the defendant.

The Court dismissed the appeals, Lord Justice Romer dissenting.

The Master of the Rolls said he would deal first with the case of *Chambers v. Goldthorpe*. The plaintiff, Chambers, an architect, sued the defendant, Goldthorpe, a building owner, for payment of fees. The building owner counterclaimed for damages for negligence on the part of the architect in bringing out his final certificate. The only question raised on the appeal was one which arose on the counter-claim, and was this—whether Chambers was placed in the position of an arbitrator, or whether he was merely in the position of a person acting as agent for the building owner. If he was an arbitrator, then the building owner could not sue him for negligence; he could only sue him for fraud or collusion; and there was no suggestion in this case of anything of that kind. When they looked at the building contract it was plain that under many of the clauses of the contract Chambers was only to act as agent for Goldthorpe. With regard to the matters dealt with in those clauses his duty was simply to look after the interests of Goldthorpe, and in respect of those matters no doubt he would be liable to an action of negligence. But when they came to Clause 20, the question arose, Did the architect still remain merely the agent of the building owner, or was he not an arbitrator? It seemed to him to be impossible to say with regard to Clause 20 that the architect's sole duty was to look after the interests of the building owner. The architect undertook the duty of bringing out a final certificate. With respect to that he owed a duty to the builder as well as to the building owner, his duty being to hold the balance fairly between the one and the other. It was argued that in this case there was no dispute, and that there could be no arbitration unless there was a dispute. In his opinion there might be an arbitration to settle what otherwise might be the matter of a dispute. His Lordship referred to the cases of *Clemence v. Clarke*, *Lloyd Brothers v. Milward*, and *Stevenson v. Watson* (4 C.P.D. 148), and pointed out, with reference to the last-mentioned case, that Chambers had not merely to make an arithmetical calculation, but to use professional knowledge and skill. He thought that the case of *Tharsis Sulphur Company v. Loftus* (L.R. 8 C.P. 1), which was the case of an average adjuster, had a strong bearing on the case before them. He came to the conclusion that Chambers was in the position of an arbitrator. With regard to *Rogers v. James*, he thought that case had nothing to do with this. There the architect was sued for not supervising the building, which was a matter in which it was not his duty to act in the interest of the builder, but rather to act adversely to the builder. He thought that the counter-claim could not be maintained, and that the appeal must be dismissed. For the same reasons he thought that the claim in the other case, *Restell v. Nye*, could not be maintained, and that the appeal in that case should also be dismissed.

Lord Justice Collins said he was of the same opinion. The question seemed to him to be the same in both cases—viz. whether the architect was in the position of a quasi-arbitrator. If he was, then the case against him in

* The case before Mr. Justice Mathew is reported in the JOURNAL R.I.B.A. Vol. VII. p. 118. His Lordship's decision in favour of the architect on another head of claim in this case does not seem to have been appealed against. By the terms of the architect's employment he was to be paid 5 per cent. upon the amount of the expenditure, for plans, specifications, and supervision of works, the building owner stating that this payment was to cover everything. The architect, by arrangement with the builders, but without the knowledge of his client, himself took out the quantities, and received for such work from the builders 2½ per cent. on the contract price. The client sought to recover this sum, but the Judge decided that the agreement as to terms did not cover the cost of taking out the quantities, and non-suited the plaintiff. His Lordship added, however, that he did not think the defendant had acted as an honourable man in concealing from his client the arrangement he had made with the builders.

each instance must fail. The question depended on this, whether he was in such a position that he was bound to exercise his judgment between the two parties impartially. It was suggested that he was only the agent of the building owner, and owed no duty to the builder. But in his opinion, when the building contract was read, it was clear that he was in the position of a *quasi*-arbitrator. An architect who was bound to give a final certificate, which should be binding not only on his employer, but on the other party, could not be said to be free from duty to the other party; he was under a duty to exercise his judgment impartially between the two contracting parties. And where a person was bound to exercise judgment between others involving professional skill he was an arbitrator. He thought that the present cases were governed by *Pappa v. Rose*, *Tharsis Sulphur Company v. Loftus*, and *Stevenson v. Watson*, and that the architect in each case was in the position of a *quasi*-arbitrator. He therefore agreed that the appeals should be dismissed.

Lord Justice Romer said he regretted to differ from his learned brethren. He would state his views on what seemed to him to be a question of principle. In his opinion, if a person undertook for reward to value or estimate for another work about to be done for his principal by a third person, he did not, so far as his principal was concerned, become in the position of an arbitrator in regard to his valuation or estimate merely because he knew that his principal and the third person had by contract between them agreed that, in default of dispute previously arising with regard to the matter, his valuation or estimate was to be taken as conclusive and as determining the price to be paid by his principal for the work to be done by the third person. In such a case, in giving his valuation or estimate he would still be acting for his principal, and, so long as he acted without fraud, he would be under no obligation or liability to the third person. And acting, as he would do, for his principal, if he was guilty of negligence causing damage, he would be liable to his principal in an action brought by him. He could not bring himself to think that that view was wrong. And yet, undoubtedly, the contrary view must be maintained by the architect in the present case to enable him to succeed on this appeal. For on the facts it appeared to be clear that by the terms of his employment by the defendant the architect undertook to measure up from time to time the work to be done for his principal by the contractor and to certify the amount in money the work represented, and in particular, on completion of the work, to certify the balance payable. For this work he was to be paid by his principal. It would follow that, if in doing that work, for which he was to be paid by his principal, he was guilty of negligence from which damage ensued to his principal, he would be *prima facie* liable. To enable him to escape from that liability, the onus would be on him to show that by the terms of the contract between his principal and the contractor he was freed from that *prima facie* liability. No doubt he might do so if he could show that by those terms he was undoubtedly placed in the position of an arbitrator with regard to his certificates, and that the principal's complaint against him in regard to the certificates was for something done in his capacity of arbitrator. But, in his opinion, the architect would not succeed in showing this merely by reason of the fact that his principal and the contractor had by the contract agreed that in the case of no prior dispute arising with reference thereto his certificates should be treated as conclusive between them. In the contract in the present case not only was there nothing going beyond what he had just mentioned, or indicating that in measuring up the work and certifying the architect was regarded or treated as an arbitrator, but the provisions of the contract appeared to

him to negative the idea that under that contract he was regarded as or placed in the position of an arbitrator. He need not go through the whole of these provisions, but he might point out that there was an arbitration clause (Clause 22) which did provide for the settlement of disputes by an arbitrator who was not the architect; and in that clause the architect was clearly recognised as the agent of the building owner, as a person who in reference to what he had to do was considered as acting for his principal and as one opposed to the contractor. And Clause 8 was not without significance. If there were any matters in respect to which one would expect to find the architect placed in the position of an arbitrator, if he was ever intended to occupy that position, it would be in reference to the matters dealt with by that clause. And yet they found that though the architect's principal would be bound under Clause 20 by the architect's certificate in reference to these matters, yet under Clause 22 the contractor might challenge the certificate and go to arbitration upon it. In fact, on this contract, far from it enabling the architect to discharge the onus which he had mentioned, in his opinion, it was strongly against him. To hold the opposite view appeared to him to put a construction on the contract not necessary or right, and one which would work injustice as between the building owner and the architect guilty of negligence. His Lordship then referred to the authorities, and said that, in his opinion, there was nothing in any of them which prevented him from taking the view which he took in this case. The cases of *Wadsworth v. Smith* (L.R., 6 C.P., 336) and *Jenkins v. Betham* (15 C.B., 169) supported his view strongly, and the balance of all the authorities seemed to be in favour of his view rather than of the contrary view, and also to be more in consonance with natural justice. He, therefore, thought that the appeal in the first case—*Chambers v. Goldthorpe*—ought to be allowed. He took the same view with regard to the other case, *Restell v. Nye*.

MINUTES. VIII.

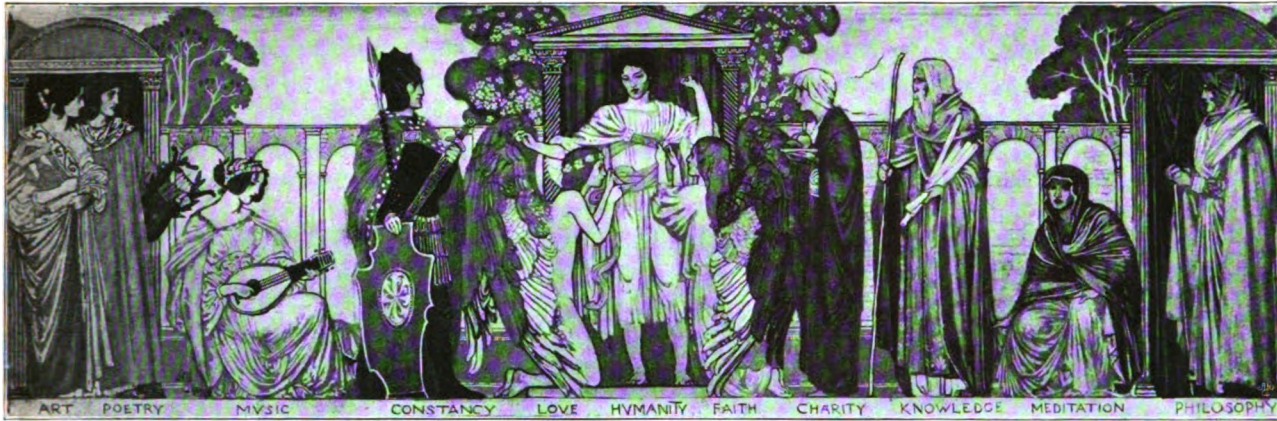
At the Eighth General Meeting (Ordinary) of the Session 1900-1901, held Monday, 25th February 1900, at 8 p.m., Mr. William Emerson, *President*, in the Chair, with 21 Fellows (including 12 members of the Council), 24 Associates (including 2 members of the Council), 1 Hon. Associate, and numerous visitors, the Minutes of the Meeting held 18th February 1901 [p. 188] were taken as read and signed as correct.

The following members attending for the first time since their election were formally admitted and signed the respective Registers—viz. Thomas Bostock Whinney, *Fellow*; Henry Francis Traylen, Philip John Turner, and Charles Edward Varndell, *Associates*.

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, and admitted by them to candidature, were recommended for election—viz. Robert Stephen Ayling [*A. 1892, Godwin Bursar 1897*] as *Fellow*; Norman Thorp [*Probationer 1886, Student 1898, Qualified 1900*] as *Associate*.

AN ADDRESS TO STUDENTS by the President having been read by the Secretary, and Mr. J. Alfred Gotch [F.], F.S.A., having read a REVIEW OF THE DESIGNS AND DRAWINGS SUBMITTED FOR THE YEAR'S PRIZES AND STUDENTSHIPS, a vote of thanks was passed to them by acclamation.

The President having presented the Prizes in accordance with the Council's Deed of Award [p. 129], and introduced the Travelling Students, the proceedings closed, and the Meeting separated at 10 p.m.



Design for Façade of The Horniman Museum. R. Anning Bell, des.

THE ART OF PICTORIAL MOSAIC.

By C. HARRISON TOWNSEND [F.]

Read before the Royal Institute of British Architects, Monday, 18th March 1901.

TO treat to-night the subject of Pictorial Mosaic with the fulness and comprehensiveness that its importance as an adjunct to architecture and the deeply interesting nature of its evolutionary course suggest, would cause me to far exceed the time assigned me. I am to speak of an art that ministered as the willing handmaid to Christian architecture for over one thousand years—a true *Biblia Pauperum*, telling, throughout those ten centuries, the Church's story in the Church's words—and that claims amongst those artists who used its method to express their aspirations such great and illustrious names as those of Cimabue, Giotto, Gaddi, Ghirlandaio, Raphael, and Titian.

An art such as this surely demands and deserves that its history should be set out at length, and its course throughout the ages carefully followed and recorded. Beyond, however, the work of M. Gerspach, who, besides being the head of the Gobelins Tapestry Works, lately directed the Government School of Mosaic in Paris, there is no work, I believe, dealing with the history and practice of Mosaic-work as a whole. There are very many books and countless articles in English, French, German, and Italian treating of certain detached examples, but it has always seemed to me extraordinary that Gerspach's *La Mosaïque*, and, in England, the article by the late Professor Middleton, in the ninth edition of the *Encyclopædia Britannica*, should represent the only endeavours towards a general history or a comparative criticism of the art. I imagine it is to the fact that I have for some time been gathering material together to fill—so far as I can—this *lacuna*, that I owe the honour of addressing you.

I propose to-night to limit the extent of the field I have to cover by confining myself to a consideration of Mosaic-work from the period when Christianity claimed its aid. The early chapters of its history are interesting though obscure, but are little more than antiquarianism. The study of an art is of value to us, as architects, in proportion as it teaches us the aims of artists, not the facts of historians.

The earliest examples of Christian Mosaic handed down to us are of the fourth century. Constantine, after his conversion to the Faith, devoted himself with passion to the provision of places of worship in which the now triumphant new creed could surround itself with all

the beauties of architecture, decoration, and ritual. His Basilica of St. Peter at Rome has disappeared, but there remains to us the Church of Sta. Costanza in that city, either built during the Emperor's lifetime as a baptistery, or, immediately after his death, as a mausoleum for his two daughters, Constantia and Helena. Ciampini's theory that this building had originally been a temple of Bacchus was based on the nature of the ornament, in which Bacchanalian subjects, such as the Vintage, Wine Treading, &c., play principal part. But

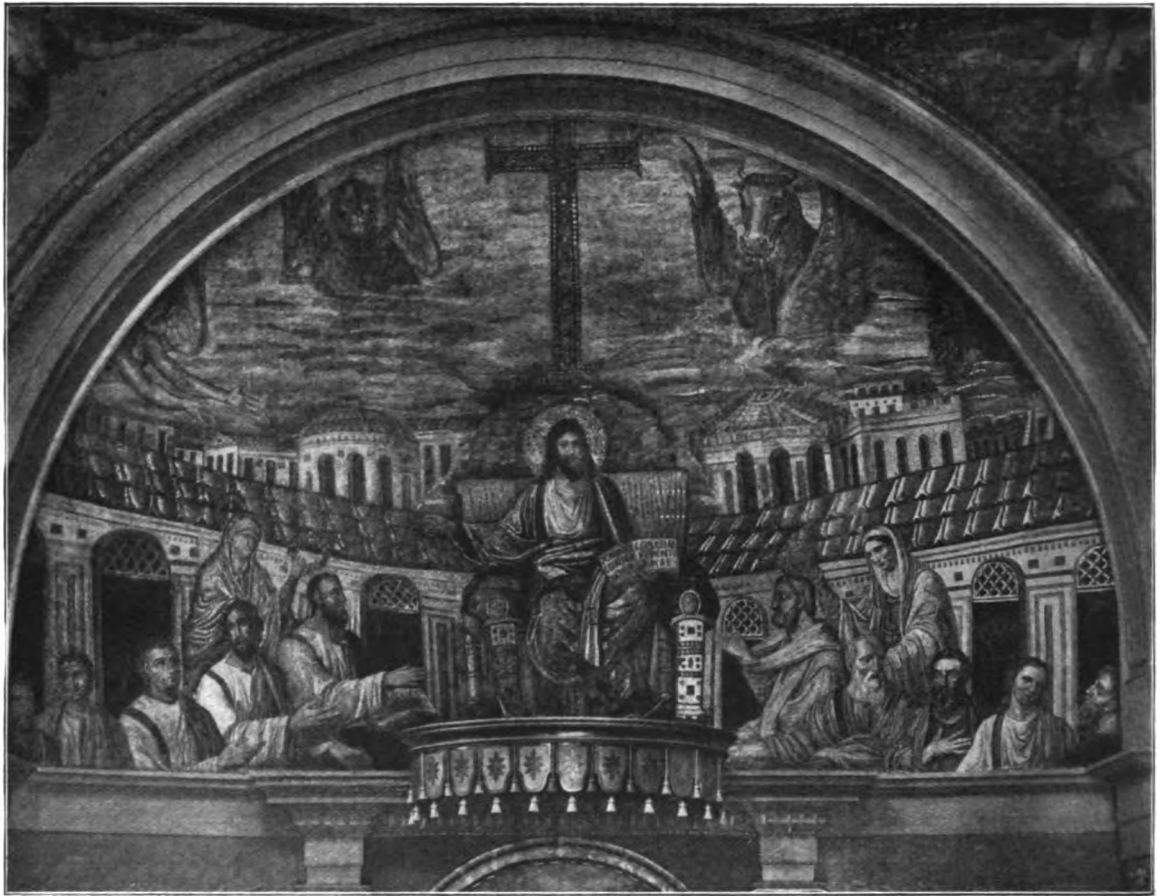


FIG. 1.—STA. PUDENZIANA, ROME. APSE CEILING. FOURTH CENTURY.

M. Müntz finds what he looks upon as convincing reason for considering the mosaics as of Christian origin, though under strong Pagan influence.

A fragment of mosaic, apparently of this century, found in the cemetery of S. Callisto, Rome, and now in the Vatican, is interesting as being the earliest representation—so far as I know—of the traditional face of Christ, unknown to the West till the fourth century.

After the martyrdom of the two sister saints, Pudenziana and Prassede, their home was consecrated by the Pope in the second century, and in the fourth century was largely altered to adapt it to the purposes of a church, when, as I believe, the very beautiful mosaic I now show was executed on the vault of the apse. Though much restored, its original composition remains unaffected. Against a blue sky in part covered with grey clouds, stand out the four evangelistic emblems, a soft greyish-blue in colour, while the lower portion of the vault is

occupied with a semicircular colonnade, behind which are seen the domes and roofs of the New Jerusalem. Above the whole, and rising from a bare and simple mound, stands forth the cross, rich in its gold and glowing gems. The regal figure of Christ in His glory—His robe in gold-colour with the high lights worked in gold-leaf *tesserae*—seated on a jewelled throne, wears the nimbus, as yet not in common use for even such sacred figures as His, and is giving to a group of eleven saints His benediction. Sta. Pudenziana places the crown of martyrdom on the head of St. Paul on the right, while Sta. Prassede does the like with St. Peter, on whose left the grey-bearded figure is probably Pudens, the senator, and father of the martyred Virgins. I have dwelt at length upon this beautiful mosaic picture from its interest when one regards it as a compendium of the early or Roman manner, untinctured by the influence—later to be predominant—of the Greek canons and ideals. Note here the various perspective planes in which the figures are placed, the individualisation expressed in their countenances, and the Roman type manifested by these. Clearly this is but one example of the high level to which mosaic art had in the fourth century attained; others there must have been to make this possible, and these, alas! are lost to us.

The removal by Constantine in 330 A.D. of the seat of empire from Rome to Constantinople, and the enriching of his new capital with the noblest examples of the art of Rome, were to him the occasion of forming a school of artists and craftsmen whose influence radiated from that centre throughout his Empire. To the mosaic artist especially he extended his favours, and during the reign of Constantine and that of his immediate successors a great number of churches in the eastern part of the Empire were beautified by this art. I have myself not had an opportunity of seeing the work at Thessalonica, so glowingly described by Texier and Pullan, but that in the Church of St. George is said by Didron to be the most beautiful in Greece.

The mosaics in the Baptistery of the Cathedral at Naples are also of this, the fourth century, which closes under the growing influence and domination of the Eastern or Byzantine ideals. Not yet, however, are the old semi-pagan methods of expression silent, and still to some extent the old symbols are called upon to set forth Christian formulæ by means of heathen conventions.

It was in the early years of the fifth century (A.D. 402) that Honorius shifted the seat of empire to the bare marsh-lands of Ravenna, destined rapidly to become a great and Imperial city, yet soon to “dwindle, peak and pine,” as the slow centuries filled its once busy quays with sand, and sowed its streets and market-places with weed and grass. Twenty years later the Empress Galla Placidia, the widow of Constantine II., made it her seat, whence to administer the western portion of the Roman Empire. Ravenna owes to this lover of the arts three of her treasures—the Baptistery of the Orthodox, the Chapel of the Archbishop, and the Mausoleum of the Empress herself.

The Baptistery, or S. Giovanni in Fonte, is an octagonal building, two arcades—one above the other—supporting a cupola formed of semi-spherical tiles. The interior of this dome, also octagonal, represents the Baptism of Christ in the centre, with the twelve Apostles in the lower ring, and below a broad frieze composed of light columns. Through these are seen memorial-tombs in their early or ciborium-like form, imitative of the rock-hewn canopies in the catacombs. These occur also in the magnificent mosaics in St. George's, Thessalonica.

The central panel of the Act of Baptism gives us an instance of that *naïf* introduction of pagan symbols in Christian subjects that I referred to above. The figure representing the River Jordan is a typical Roman river-god, holding the traditional and allegorical urn whence gushes forth the stream—a treatment to be seen in Ravenna again a century later.

The Chapel in the Archbishop's Palace—la Cappella di S. Pier Crisologo—is a small

square vaulted building, of which the mosaics, and especially those of the central compartment, are very beautiful and stately. Four angels bear the sacred monogram, and below them appear the Four Evangelists. The medallions of the Twelve Apostles show a very distinct Roman type of countenance. Much of this mosaic, especially the birds, was painted over when I last saw it. But even to that, perhaps, one can more easily reconcile oneself than to the later

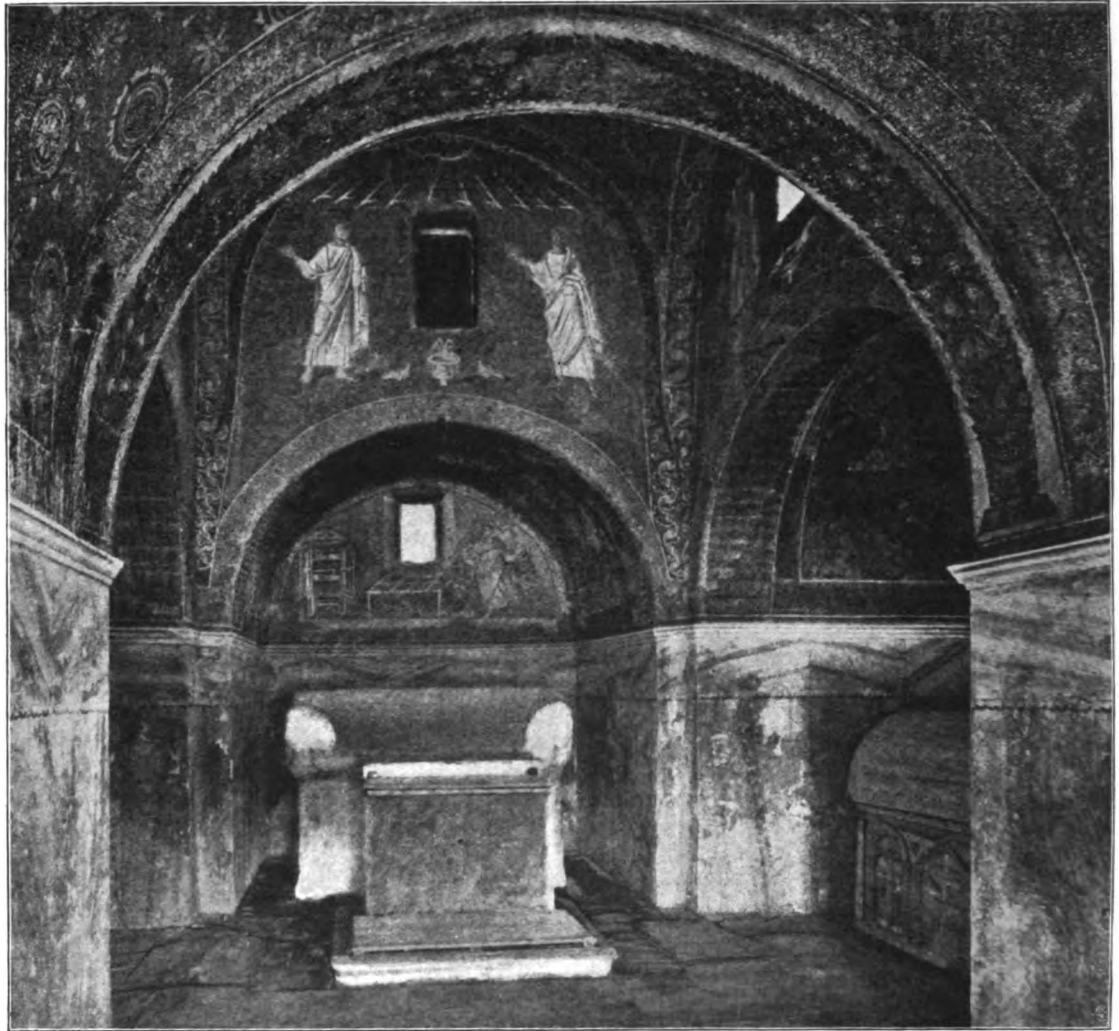


FIG. 2. -MAUSOLEUM OF GALLA PLACIDIA, RAVENNA. GENERAL VIEW. FIFTH CENTURY.

fate of restoration which has since, I believe, befallen it, in common with nearly every mosaic in Italy. The Christ over the west door is represented as beardless; so far, the conventional representation of His countenance was not universally accepted as the one and orthodox type.

The Mausoleum of Galla Placidia, or as it is sometimes called the Church of SS. Nazario e Celso, is a mass of very beautiful mosaic-work of this, the fifth, century. The dome contains a central cross and the symbols of the Four Evangelists. Above the door is Christ as the Bonus Pastor—a youthful shepherd—and opposite, to symbolise the triumph of

the Christian faith, He is represented (here with a beard) as committing heretical books to the flames. The treatment of the other arch, entirely decorative in character, introduces stags at a spring. The ground of this work throughout is a very deep and beautiful blue; gold is sparingly introduced for the cross and some of the ornaments, and the draperies, quite Roman in treatment, are mainly white. The work seems, with its absence of gloom yet its dignity of invention, its Roman forms yet its Christian thought, to form the typical example of the fusion of the new and the old creeds which was exhibiting itself elsewhere in Italy. Thus in S. Ambrogio, Milan, the little and hardly-known chapel of S. Satiro contains a very interesting and unrestored mosaic, in which the drapery of St. Victor and the other saints is quite in the Roman manner.

At Rome highly-important work was executed in this century. That at Sta. Sabina has almost disappeared, but a couple of figures remaining—the Gentile and the Jewish Churches—show one how great the loss is [fig. 3].

The mosaics on the Triumphal Arch of Sta. Maria Maggiore show the Annunciation, the Presentation, the Three Magi, the Dispute in the Temple, and the Massacre of the Innocents; over the centre of the arch is a throne on which stands the Cross, with St. Peter and St. Paul on either side, and in the lower portion of the spandrels are the Blessed Cities—Bethlehem and Jerusalem. The twenty-nine panels still remaining of the original thirty-six above the nave arcade contain scenes from the Old Testament, confused, crowded, and chaotic, and principally dealing with the history of the Patriarchs and the Israelites in the Desert. Noteworthy, however, as spirited and dramatic is the panel which represents Abraham entertaining the three Angels—of whom, by the by, one wears the nimbus of Divinity, according to the legend that included Christ as one of the three mysterious visitants. This series is really important amongst the early works of Byzantine art, and is the last effort for many centuries towards dramatic representation, before the crystallisation of pictorial art into conventional and traditional forms.

Much of the mosaic-work of the Basilica of S. Paolo fuori le Mura is only interesting in so far as it retains for us the scheme of the original mosaics of Pope Leo I. (440–461) as preserved for us in their re-execution after the fire of 1823, which only spared the thirteenth-century mosaic on the W. front. Poletti, the architect of the rebuilt church, placed these mosaics in the transepts, the colossal figures of St. Peter and St. Paul occupying the back of the arch of Galla Placidia, and the figures of St. John Baptist and the Madonna and Child being above the apse. Throughout these fairly precise reminiscences of the fifth century we see how the earlier—the Roman—symbolism is passing away, how winged angels replace the little genii amongst the grape stems of Sta. Costanza, and how the simple idyll of the Good Shepherd gives way to scenes from the mystic Apocalyptic Vision. In the dome the head of the angel to the right of our Lord distinctly suggests a fragment saved from the fire. Opening out of the Baptistery attached to this church—an octagonal building erected by Constantine—are a couple of oratories dedicated in honour of the two St. Johns, formed, it is said, in the pontificate of Pope St. Hilary (461–467) out of apartments in the Emperor's house. Of these the Oratory of St. John the Evangelist contains a roof covered with mosaics, with a central figure of the Lamb of God, and on each section of the vault vases with pairs of birds facing them—ducks, parrots, partridges, and doves symbolically representative of water, fire, earth, and air respectively.

The sixth century is rich in material for study, in both the Eastern and Western portions of the Empire. In the former the building of St. Sophia at Constantinople after the fire of 533 was brought to a close by Justinian in 559. The gorgeous mosaics with which he tried to fortify the claim of his new church to being the most beautiful edifice that man had ever

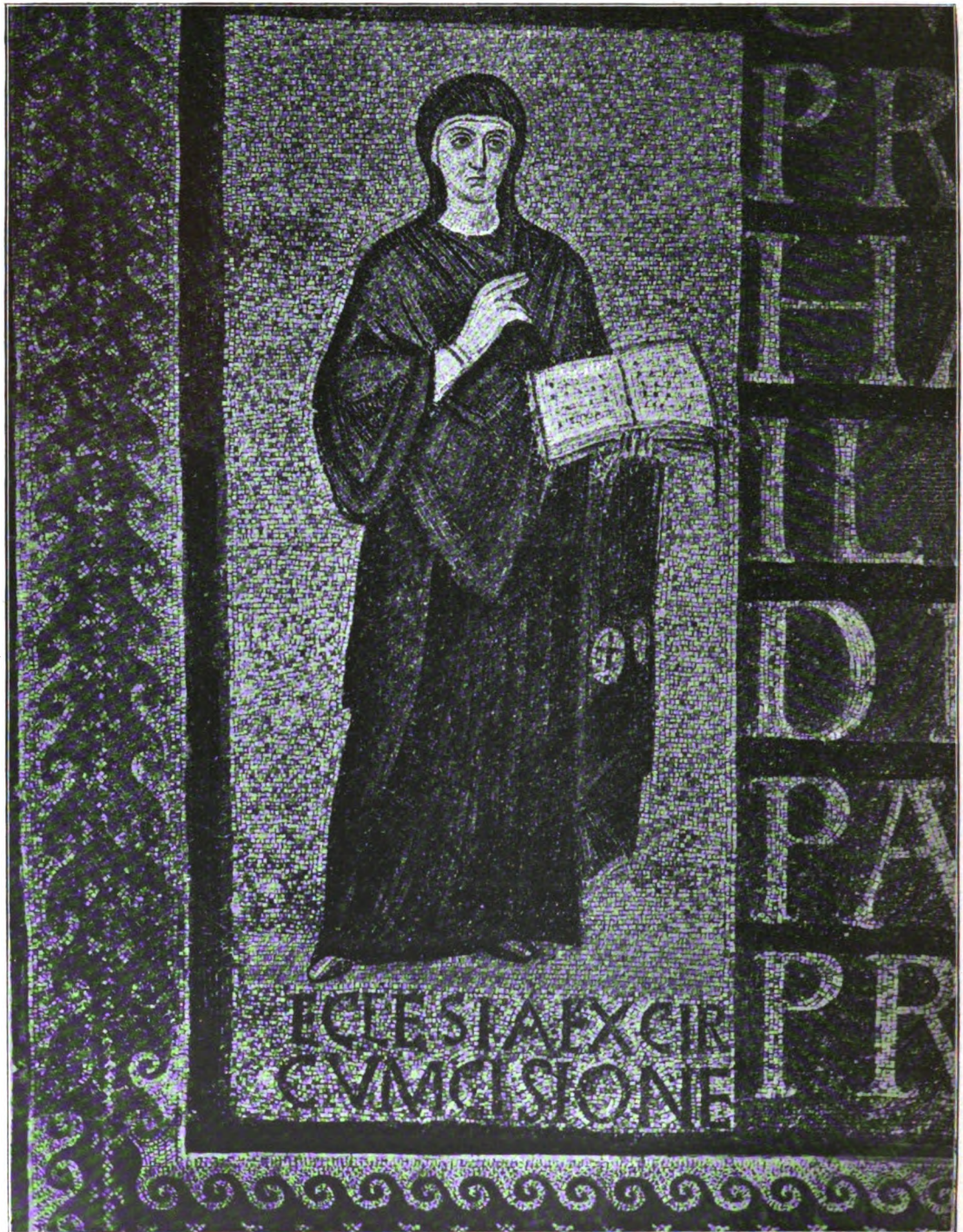


FIG. 3.—STA. SABINA, ROME. FIGURE OF THE JEWISH CHURCH. FIFTH CENTURY.

built ("Solomon," said he, "I have surpassed even thee"), lay, for the many centuries that followed the dominance of the Crescent power over the Cross, under many and concealing coats of whitewash. But in 1847 and 1848, during the work of cleaning and repair, after thirteen centuries' neglect, for Sultan Abd-ul-Medjid, by the brothers Fossati—his Italian architects—an opportunity of studying the Byzantine mosaics occurred, of which Salzenburg reaped the benefit, and made the series of drawings of the old work that are so well-known, and are our only record of much that has again been concealed from our inspection. There seem, judging from this work, to have been a consistent scheme of decoration, a general tone of harmonious quiet colour, with silver largely used for the high lights, and soft green or blue folds in the drapery, and throughout a feeling of the antique or Roman style as it began to be influenced by the sterner, more rigid canons of the East.

One is always consoling oneself for the shame and neglect under which this beautiful Christian church has groaned for centuries by looking forward to the day when it shall revert to its ancient creed and former use, and when the vestiges of its years of Mahommedan bondage shall be swept away, and, not least, the whitewash on its walls and vaults that now hides, as we fondly think, huge areas of gorgeous mosaic-work that simply wait the time of their revelation. But some five years ago I examined the ceiling of the gallery very carefully, and I think that the present whitewash serves as substitute for now absolutely vanished mosaics, and even with the aid of strong glasses I could see no reason for agreeing that it serves as a Mahommedan concealment of a Christian picture.

The Goths, after eighty years of struggle, finally defeated by Narses in 552, Ravenna resumed its old importance as a great city of the Empire of the East, and a centre of light and leading. Early in the century the Baptistery of the Arians, or Sta. Maria in Cosmedin, was built in unorthodox rivalry of the Baptistery of the Orthodox—S. Giovanni in Fonte—which I have already described. Like this building, already described, its decoration starts with a central subject setting forth the Baptism of Christ, a curiously close copy of the earlier example.

S. Apollinare Nuovo, also built in 500 for the use of the unorthodox, and known as S. Martino, was converted into a Roman Catholic church in 570. It shows in the treatment of its mosaics traces of both those influences. Its nave contains a magnificent series of mosaics in three ranks from floor to ceiling. The upper portion consists of scenes in the life of Christ, somewhat small and intricate. Below these occurs the clerestory, with various Apostles between the windows. Finally, on the south side, above the twenty-four columns brought by Theodoric from Constantinople, is a magnificent procession of twenty-five saints with wreaths issuing from the palace of Theodoric, and approaching Christ seated on a richly-gemmed throne, while on the north wall a procession of twenty-two virgins and the Magi (these last much restored) leaves the town of Classis. In a recess on the north of the church appears the portrait of Justinian.

S. Vitale, which was utilised as a model for St. Sophia, Constantinople, some five or six years later, was built in A.D. 526, to commemorate the spot where St. Vitalis suffered martyrdom. The church is octagonal, with a semicircular apse which contains a magnificent mosaic scheme. Christ as a youth, enthroned on an orb, dominates the semicircular vault, and on His right is St. Vitalis, to whom he presents a crown, and on the left Ecclesiast with a model of the church. Below are Justinian with the Bishop Maximian and his courtiers, and the Empress Theodora with her ladies, both presenting offerings. We see again the two Holy Cities on the arch of the choir. Above are the four Evangelists, and Isaiah and Jeremiah, and various Old Testament subjects, including, as was so usual, an allusion to the Eucharistic sacrifice in the form of a representation of the feast of Melchisedek.

For all its sadness of decay S. Apollinare in Classe, remote and deserted, away in the

marshy and pestilential low-lying lands, was yet, when last I visited it, a magnificent contribution to the history of the art with which we are dealing to-night. But, since then, I fear it may have passed, as seemed likely, under the devastating hand of the restorer, and my

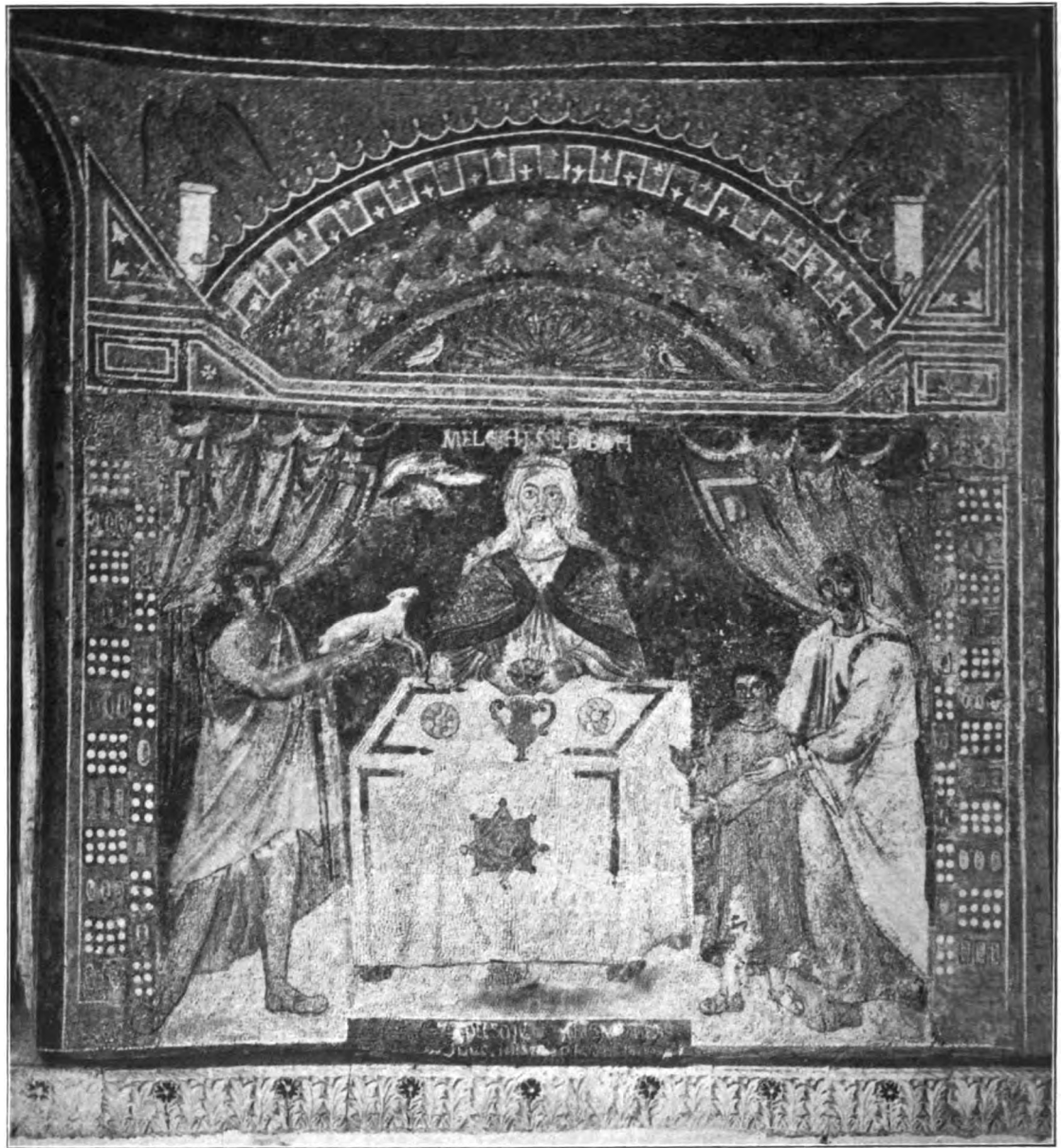


FIG. 1. — S. APOLLINARE IN CLASSE, RAVENNA. PANEL IN APSE. SIXTH CENTURY.

knowledge of the effects of this process on others of the Ravenna churches, between my first and second visits to them, makes this a very disturbing reflection. The semidome of the apse contains a large cross on a blue ground with gilded stars, Moses and Elijah being at the sides, and below St. Apollinaris preaching to his flock. Lower are the Eucharistic subjects

of the sacrifices of Abel and Melchisedek. The arch of the choir has a central panel of the head of Christ, and on either side the Evangelistic emblems, with flocks of sheep hastening to Christ from the cities of Jerusalem and Bethlehem. The Transfiguration here represented gives us the first instance of the representation of this subject in Christian art.

Many other churches in Ravenna contained mosaic works, now no more, and probably in most instances removed by Charlemagne to Aix and elsewhere, under a grant by Pope Adrian I., which authorised him to remove at his will "*musiva et marmora urbis Ravennæ*."

Leaving Ravenna for Rome, we may easily see here, at the meeting-point of the many nations that, by this time, formed the Roman Empire, that we are under other influences, and that the dominance of the Northern races, after the accession of Theodoric in 493, had led to the selection of subjects appealing to, and models selected from, the strenuous and vigorous Northerner rather than the dreamy and ascetic Eastern. Freshness of treatment, but withal a kind of grim hardness in the type of countenance selected; the Roman ideal at base, but with an all but barbaric respect for physical strength—such are the characteristics of a Roman mosaic of the sixth century. Of this, for instance, we see an example in the Church of SS. Cosma e Damiano, of which I show a slide. Here above the arch is the Lamb, surrounded by the Seven Candlesticks and other Apocalyptic emblems. On the blue ground of the vault St. Peter and St. Paul present Cosma and Damian.

The figure of the Pope has undergone many changes. First representing Pope Felix IV., it was altered in the sixteenth century to Gregory the Great, and later Alexander VII. had it re-executed as Felix IV., but in the style of his own period—the seventeenth century.

Further work in Rome of the sixth century is the mosaics at S. Lorenzo fuori le Mura, where a change of orientation about 1220 has resulted in those above the chancel arch now facing the apse and not the nave.

The seventh-century work in Sta. Agnese fuori le Mura I illustrate by a slide. The mosaist has handed down to all ages his own opinion of his achievement in a gilt inscription on the mosaic itself, in which he likens its beauties to that of a lovely dawn. This work Kügler refers to as "on the boundary line between the earlier and later styles." We find a significant deviation from the general rule: instead of the figure of Christ is St. Agnes between Popes Symmachus and Honorius, the only indication of the Godhead being a hand protruding from the clouds to crown the saint. The heads were restored in the seventeenth century.

The Oratory of S. Venanzio at St. John Lateran, Rome, contains a very interesting composition of this date, the apse ceiling being occupied by a head of Christ, while below is the Virgin, with St. Paul, St. John the Evangelist, St. Venanzius, and Pope John IV. on her right, and on her left St. Peter, St. John Baptist, and Pope Theodore I.

The eighth century gives us at the Church of S. Teodoro, Rome, mosaics on the Tribune, where we notice that the figures of St. Peter and St. Theodore are close and literal copies of the work at SS. Cosma e Damiano.

M. Barbet de Jouey, in his *Mosaïques Chrétiennes des basiliques et des églises de Rome*, gives a full list of the works in that city that were carried out in the ninth century, to some of which I shall refer later. But it is necessary to contemplate these achievements and those at Constantinople, for instance, in the light of the great dispute of the preceding century as to the representation in religious subjects of the human or divine-in-human form, and the effect that the various rulings of the Church on the matter had exercised on Christian pictorial art. The fight was long and bitter between the iconoclast and his opponent. Suffice it to say that the edict of Leo the Isaurian, in 726, condemning the cultus of images and their representation as blasphemous, though confirmed by a Council in 754, raised such a storm amongst the faithful that it was revoked and recalled by the Council of Nicæa in 787.

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The result of this fifty years' angry disputation was to check Christian art, along those particular lines, while it lasted, but to lead to a reaction, during the following century, that led to the production of many great and important works

The mosaic in the sanctuary of S. Ambrogio, Milan, of the ninth century, has a splendid composition, representing, on a gold ground, Christ surrounded by saints, and the two cities of Milan and Tours—an allusion to the Vision of St. Ambrose, who, slumbering at Mass, averred, as his explanation on coming-to, that he had been, in the spirit, assisting at the funeral of St. Martin—no matter that his body might be in Milan.

In Rome the ninth century also saw executed the very beautiful and interesting mosaics of the Church of Sta. Prassede. These ornament the Cappella della Colonna, and have led to its being called "Il Orto del Paradiso." It is approached by an archway containing a series of heads in mosaic—Christ, the Virgin and Child, and various saints—such as SS. Paul, Pudenziana, and Zeno. The vault has a figure of Christ, supported by four angels, and over the side door a half-length of the mother of Pascal I., represented (being a portrait from life) with a square nimbus.

The mosaics at S. Marco, Rome, are an example of the utmost Byzantine rigidity, and though fine in general effect are poor and stiff in detail. Those at Sta. Cecilia—arabesques and six portrait-heads—are also probably of this date.

From the second quarter of the ninth century till very near the middle of the twelfth the art of mosaic underwent in Rome a period of absolute stagnation. But at St. Mark's, Venice, there is some notable work to signalise during the tenth and eleventh centuries. I have emphasised more than once the adherence on the part of mosaic-workers in Rome, and even Ravenna, to a Roman rather than an Eastern treatment of their designs. But the work that the tenth century saw commenced at St. Mark's shows us an entirely different iconography, and a Greek or Byzantine influence manifests itself.

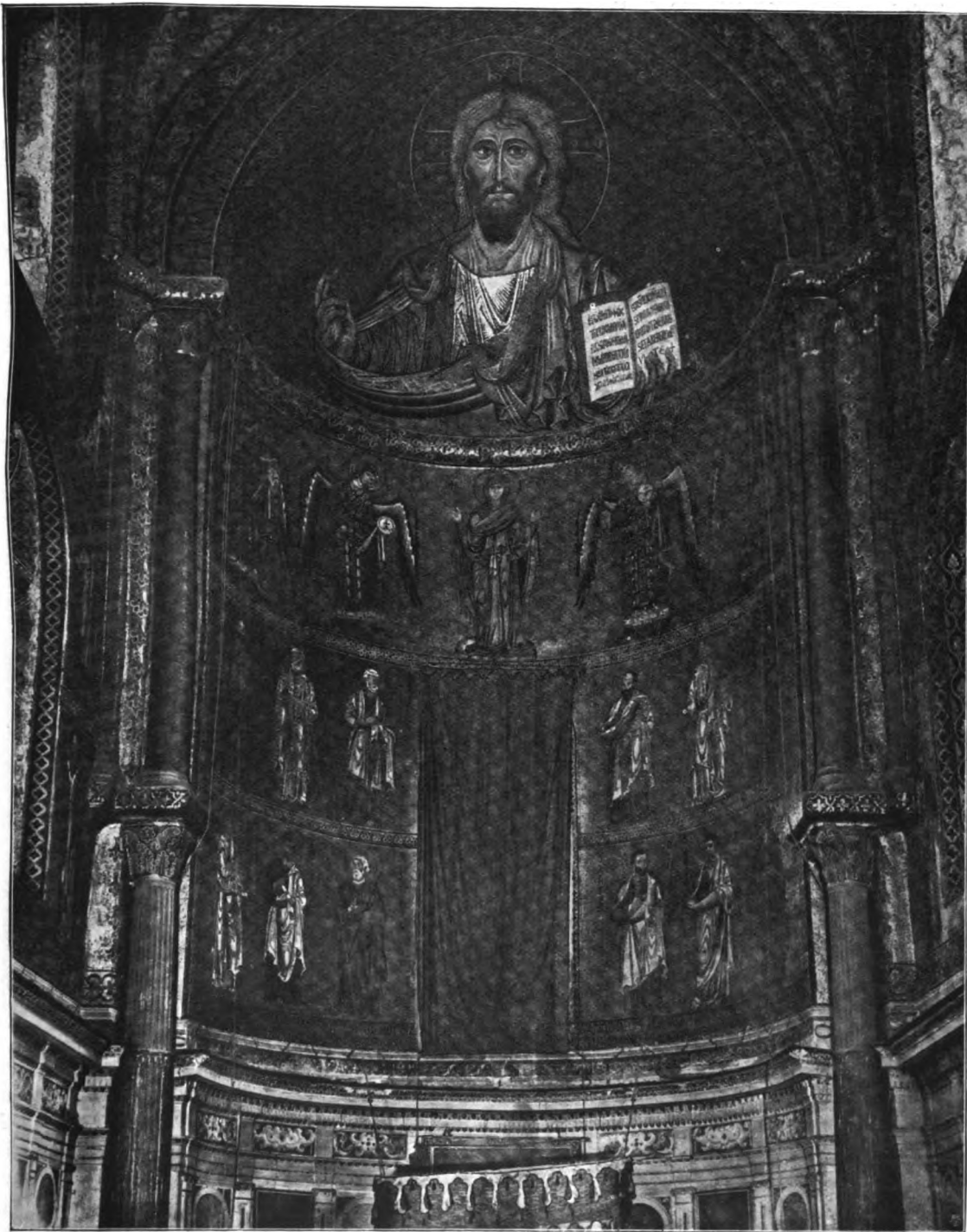
The Doge Domenico Selvo commenced in 1071 his work of beautifying St. Mark's, and under him the Old Testament decorations in the narthex were executed. In itself the selection of these histories in place of Apocalyptic or symbolic subjects marks a change in aim as between the Roman and Byzantine schools. Of this period are some of the figures on the principal dome and in the sacristy.

During the twelfth century, however, much work was done not only in Venice, but in Torcello, its sister-port and rival. The Evangelists and the Holy Rivers in the spandrels of the principal dome, the Prophets in the choir dome, and the series in the chapel of S. Zeno, were probably then carried out at St. Mark's, while at Torcello a magnificent mosaic was placed on the apse ceiling. My slide shows the composition of this fine work—a monumental figure of the Virgin—of which the dignity and solemnity are in fine contrast with the more elaborate work facing it. The figure of Christ in the apse of the side chapel shows the same strong Byzantine feeling.

In Sicily, notwithstanding Gravina's argument, there does not seem sufficient reason to admit the existence of a purely Sicilian school. It would rather seem the fact that the Normans, under Roger II., were obliged to call to their service Greek artists.

In La Martonara, Palermo, occur two panels, one representing the Admiral George of Antioch prostrating himself before the Virgin as founder of the church, and the other, Christ placing a crown on the head of King Roger.

The Cappella Palatina is clothed with a very gorgeous treatment, which comprises amongst smaller Old and New Testament subjects leading up to it, the figure of Christ in the apse ceiling, and below it the Virgin, St. Mary Magdalene, and other saints. In the dome is again a representation of Christ, here surrounded by the Heavenly Host, the Prophets and Evangelists.



P.O. 5.—CATHEDRAL CEFALÙ SICILY. TWELFTH CENTURY.

The Cathedral at Cefalù, also executed at this period, will serve to illustrate the characteristics of Sicilian work, and its affinity with that being done at the same time in Venice.

Near Athens, the Monastery of Daphne offers us examples which I should ascribe to this date, and which I illustrate by the large facsimile of a Crucifixion lent me by Sir Tatton

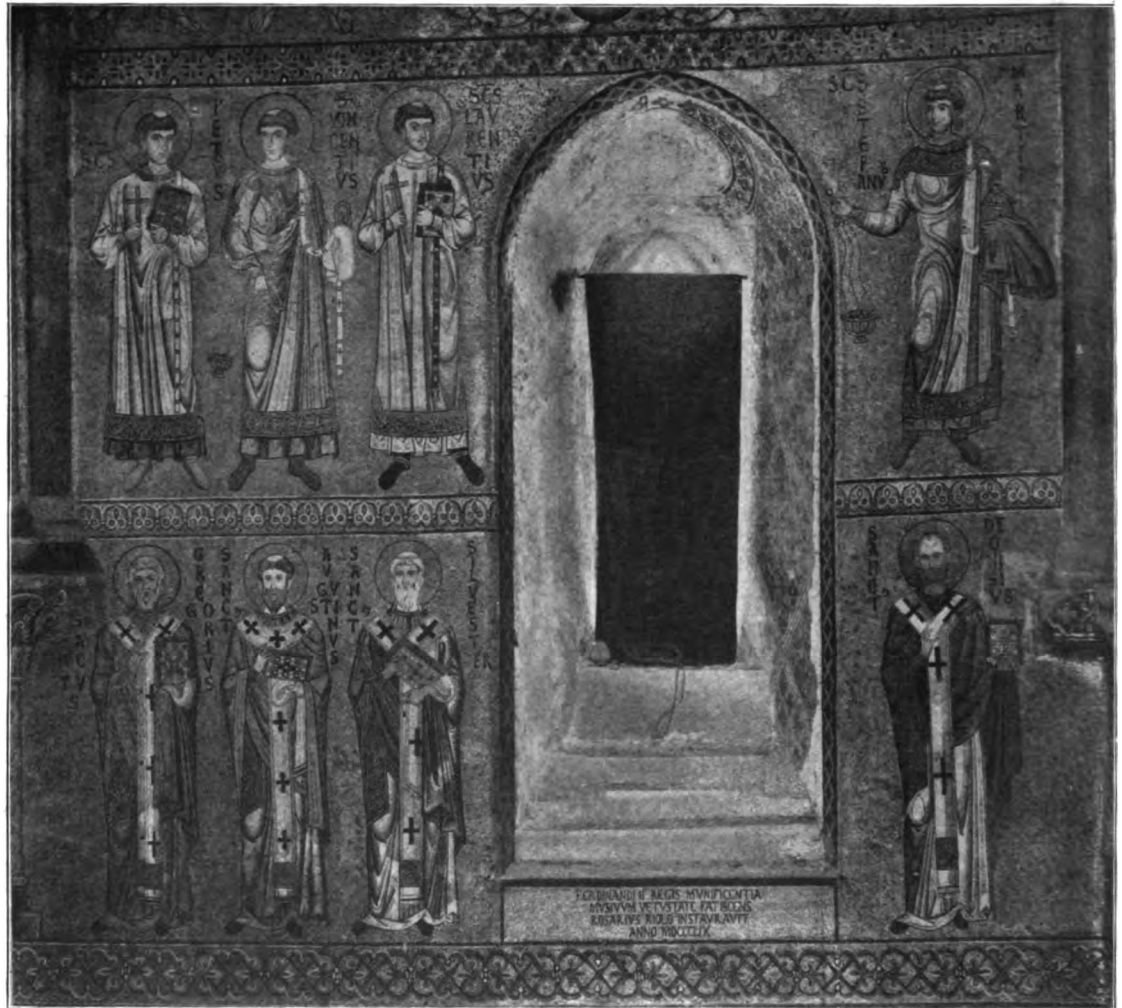


FIG. 6.—CATHEDRAL, CEFALÙ, SICILY. TWELFTH CENTURY.

Sykes. Much mosaic work, as yet without proper record, exists for our study in Greece, but I am glad to know that a work dealing fully with it is in very capable hands. Not much remains in the Holy Land, but in the Church of the Holy Sepulchre in Jerusalem we see still a figure of Christ, and at Bethlehem, in the Church of the Nativity, portions, above the nave arcade, of what must have been a large and sumptuous scheme. This work, and that in the crypt, were executed in 1169 by a Greek artist.

In the meantime, in the Western world, this age, so rich and fruitful in the production of mosaic, gave us at Rome the apse of Sta. Maria in Trastevere, and an external subject

representing the Virgin and Child, with, on the right, five female figures, and on the left the same number. Of these two are uncrowned and bear extinguished lamps, probably an error on the part of the artist in his representation of the Five Wise and Five Foolish Virgins. The apse, which I illustrate by a slide, shows Christ and the Virgin seated on a throne, with Pope Calixtus (receiving the benediction), St. Peter and St. Laurence, and other figures. The Flock is again represented, as are the Two Cities. The triumphal or chancel arch contains a Cross, the seven Apocalyptic candles, the Evangelistic symbols, and, on either side, Isaiah and Jeremiah. In all this work we still feel in scheme and treatment a Roman rather than the Greek or Byzantine feeling evidenced in the Venetian and Sicilian work of this period.

Sta. Francesca Romana, often ascribed to the ninth—but as De Rossi maintains of the twelfth—century, contains a very unusual and beautiful design. The Virgin and Child, and SS. John, James, Andrew, and Peter, are arranged under small semicircular arches carried by columns, while the summit of the vault is treated as a velarium of gorgeous colouring.

For some reason M. Gerspach, whose chronology is not his strongest point, ascribes to the thirteenth century the well-known work at S. Clemente, Rome. There is little doubt, however, that its date is of the earlier part of the preceding century—1112, in fact. This is a treatment rather apart from the usual *motifs* of Roman work. Above a figure of Christ on the Cross (the only Roman representation of this subject, by the way) appears a Hand—the symbol of the Almighty—holding a wreath of victory. Beside the Cross, on which are two white doves, stand St. John and the Virgin, within a *vesica*, and from its foot the Vine, that symbolises the Church, “spreads like a rolling frieze over the hollow of the tribune, the Doctors of the Church, with many other figures, ensconced within its branches. The four Rivers of Paradise, with shepherds, flocks, &c. on the banks, are beneath; and below the whole composition are thirteen sheep, having come from two archways which lead respectively to the cities of Jerusalem and Bethlehem, on the walls.” The whole of this mosaic is small, and miniature-like in scale.

But in the thirteenth century under Pope Nicholas IV. a very remarkable work was carried out in Rome. Surviving, so far as it does, fire and earthquake and restoration, the great scheme at St. John Lateran, executed for Nicholas IV. by Jacopo di Torrita or Torriti, hands down to us at all events a reminiscence of that master’s fine design. Above, the head of Christ, preserved by Jacopo from an older tribune, is surrounded by cherubim. In the range below this the Dove descends above a cross standing on the Hill of Paradise, and, from the foot of the latter, stags (as at S. Clemente) and sheep (symbolising the faithful) drink from the waters of spiritual life. On the right are SS. John Baptist, John the Evangelist, Andrew, and a small figure of St. Anthony; on the left the Virgin (Nicholas IV. at her feet), with St. Peter and St. Paul. This design is signed by Jacopo, and by his assistant Camerino, the Apostles between the windows being executed by the latter, who has, indeed, represented below them himself and Fra Jacopo.

According to Vasari, Andrea Tafi, on being commissioned by the Signory to decorate with mosaics the Baptistery in Florence, had to send to Venice for a mosaist, one Apollonius, presumably a Greek, to help himself and Gaddo Gaddi in the practical side of the work—the preparation of the *smalto*, or glass, and the cement. The expert, however, was not very successful as regards the latter material; indeed, some fifty years later, Agnolo Gaddi and Lippo Lippi were called in to re-execute much of the work that had become detached from the wall. Within the last three or four years it has been—restored. I had an opportunity of closely examining it during this unhappy process, and was astonished to find how large a proportion of this dome was distemper-colour in imitation of the mosaic.

The S. Miniato apse is so restored as to be no longer useful as a document. At Pisa,

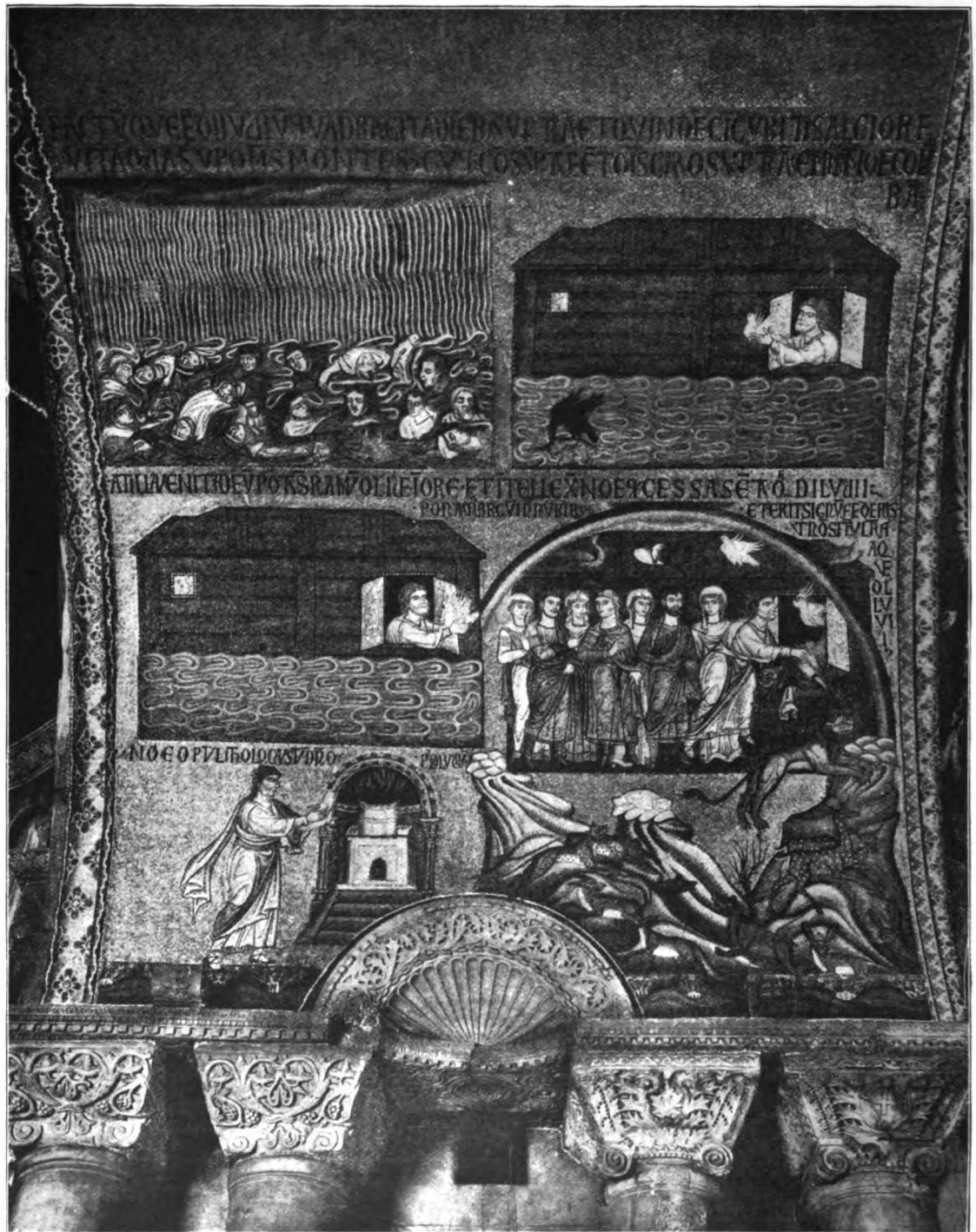


FIG. 7.—ST. MARK'S, VENICE. SOFFIT OF ARCH IN ATRIUM. THIRTEENTH CENTURY.

Andrea Tafi, Gaddo Gaddi and Giacomo di Turrita were associated in treating the apse of the Cathedral with mosaic decoration, finished some twenty years later than Cimabue's work here, which it is somewhat difficult to separate from theirs.

Meanwhile at Venice much energy was shown in the prosecution of the mosaic scheme for St. Mark's. After the taking of Constantinople by the Venetians in 1204, the work on the façade and in the atrium was proceeded with, the former being completed before 1275, the latter somewhat later. Of the five lunettes over the entrances from the Piazza only one remains to us of this date—though I must add, sadly enough, that, as I saw it last, it had not long emerged from behind the restorer's screen. We are able to find very admirable records of what the other panels must have been from Gentile Bellini's picture, painted in 1496, in the Accademia, Venice. This—a Procession in the Piazza of St. Mark—preserves a clear record of the rest of the thirteenth-century subjects dealing with the legend of the Finding of the Body of St. Mark.

A further and important instalment of the work at St. Mark's was executed under the Doge Andrea Dandolo in the following century (1349–1354), when the Chapel of S. Isidore was decorated with the series of subjects based on the life of that saint; and the Baptistery with others dealing principally with the rite of Baptism, which I illustrate by a slide.

At Torcello the school of mosaic work showed a pronounced difference of aim and style from that of the same period in Venice. In this more Byzantine manner was executed the strange composition on the west wall of the Cathedral, and, as very usual for such a situation, the subject was the Last Judgment, here treated with a verve and individuality that make it one of the most interesting of mosaics. It is more probably of the fourteenth century than of the twelfth, to which Gerspach assigns it.

The Greek workers in mosaic had now become widely spread over the north of Italy. We have seen them at work at Florence, while in this century Vicino completed at Pisa the scheme begun by his master Gaddo Gaddi, and at Siena as well as at Orvieto the cathedrals were decorated by external mosaics. From the last-named church the Victoria and Albert Museum secured one of the panels a few years ago.

Rome saw two important works achieved in the fourteenth century, of which, perhaps, the principal was the completion of the fine work in the apse of Sta. Maria Maggiore, commenced by Jacopo di Torriti quite in the last years of the thirteenth, and of the panels below it, executed by Gaddo Gaddi. The apse ceiling composition consists of Christ and the Virgin on a throne, the latter having a crown placed on her head [fig. 8]. At the sides are SS. Francis, Paul, Peter, and other saints, with Pope Nicholas IV. and Cardinal Colonna as smaller figures on their knees. The series below, by Gaddo Gaddi, represent the Annunciation, Nativity, Adoration, Presentation, and in the centre the Death of the Virgin. The façade of this church contains in the loggia the mosaics of Rusuti, an otherwise unknown master, of which the principal figure in the upper stage is that of Christ in Glory. In the charming subjects of the Dream of Liberius and the Miraculous Fall of Snow, Rusuti had, so Vasari tells us, much of Gaddo Gaddi's assistance.

In the fifteenth century we have not much to chronicle save in Venice. In Florence Baldovinetti executed one of the over-door spaces at the Baptistery, and his pupil and Michael Angelo's master, Domenico Ghirlandaio, commenced in the Cathedral the decoration of the chapel of S. Zenobio. It is of his Annunciation, executed over one of the side doors, that Vasari speaks so enthusiastically, and quotes Ghirlandaio's own opinion of this art, when he declared it to be "*La vera pittura per l'eternità.*"

But the really important work of the fifteenth century occurs in the Chapel of the Mascoli in St. Mark's, Venice. These represent the principal legends of the Virgin, and in composition,



FIG. 8.—SANTA MARIA MAGGIORE, ROME. APPEL CEILING. FIFTEENTH CENTURY.

colour, and execution are alike admirable. We see no immature and crude drawing and design as in the past; no fatal attempts to rival the painter, such as was too soon to bring about the decay and eventual death of the mosaic art, are here. The whole treatment is conventional, but the conventionalism—not of ignorance but of restraint, and it breathes throughout the thoughtful care of the mosaist to keep his work within the limits that his material and technique demanded.

It is with these panels that one approaches, if one has not already touched, the end of the art of mosaic-work, and it is from this point that one sees the mosaist—designer and executant in one—make room, to the ultimate destruction of his art, for the painter who called to his aid the “dull mechanic” hand of a workman to represent, servilely, oil-painted pictures by means of cubes of glass. An art of which the merit is in so great degree its technique, method, and material could not survive the attempt to suppress and conceal these, nor hope to live if dependent for existence on its closeness of imitation to another and distinct form of artistic expression.

Even the greatest names cannot sanction such a departure from the right; even Titian's fame does not prevent his “St. Mark” being anything but a magnificent *tour de force*, in which some mechanic repeats for him in mosaic what he himself had said—and better—with the brush.

And the state of design rapidly became worse and worse. The seventeenth century saw such a composition as I show by this slide accepted and praised, though it transgresses in its realism, its exaggerated movement, its rendering of accidentals, all the rules and all the canons that should regulate mosaic-work.

The eighteenth century finds the work sunk to the same low depth, though with a sickly sentimentality all its own, as the central entrance of St. Mark's shows us.

Bad as these last examples are, however, it was reserved for the mosaists of the nineteenth century to strike the worse note of imitation, and not only to execute indifferent mosaics, but to falsify the history of the Church as recorded by and on its walls, by treating their mosaic designs as pseudo thirteenth-century work. At all events the seventeenth and eighteenth century workers spoke in their mosaics in the language of their day; they did not affect the phraseology of a long-past time.

The modern work at St. Peter's, Rome, has little more to be said for it. Who can do more than regret having to read in the long list of these mosaics the entry of such subjects as “Saint Catherine, *after Murillo*”; “Christ—a *Byzantine* design, by Sig. Poggesi”; “Two figures, *in the Pompeian style*, designed by Baron Camuccini”?

Giving twelve of his pages to the modern manifestations of mosaic art in his own France, M. Gerspach disposes of those of England in twenty-eight lines. But then, even *he* can make out but a poor case for that *supériorité reconnue de la France* in this matter, which he claims for her. Based as the Government school, over which he once presided, avowedly was, on the latter methods and ideals; training his pupils, as he told me was his rule when I visited him in Paris, to take Raphael's Chigi library work as their starting-point, one does not in the interests of this beautiful art regret the disappearance of his Government studio.

And England, in the meantime, with the dread of the taxpayer holding back her Government's hand from State support of a Mosaic school, has not been, all the same, inactive and unproductive. She has much to show as the work of the last few years. I do not say (in fact, I imagine there are few interested in this special matter who can say) that some of the largest of our later English works are successes. Nor do I deny that they show us the artist unwilling to suppress, as the loyal mosaist should, many of those artistic attributes of which, under other circumstances, he might have a right to be proud. I do, however, maintain that it would have been difficult—nay, impossible—to find in either France or Italy an artist who would

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have executed the work I have in my mind without falling still more egregiously into those errors which the great work of the past indicates as present in this particular English work.

With further reference to English modern mosaics I will venture to illustrate, by slides, two designs, for which I have to thank Mr. Anning Bell and Mr. Walter Crane [see headpiece p. 221, and fig. 9 below]. These artists have helped me to realise on two of my buildings my strongly-felt wish to enlist the aid of design and colour, and, above all, thought, to render London façades less monotonously grey, and more full of thought and interest.



FIG. 9.—WHITECHAPEL ART GALLERY. EXTERIOR MOSAIC FRIEZE. WALTER CRANE, DES.

ILLUSTRATIONS TO MR. TOWNSEND'S PAPER.

LANTERN SLIDES.

Century.		Century.	
IV.	Sta. Costanza, Rome. Vault of Ambulatory.	X.	St. Mark's, Venice. Interior. Panel over W. entrance.
"	Sta. Pudenziana, Rome. Apse ceiling.	XI.	" " Justice from principal dome.
V.	S. Giovanni in Fonte, Ravenna. General view.	"	" " Figure of Virgin from principal dome.
"	" " " " Dome.	XII.	La Martonara, Palermo. Christ crowning King Roger.
"	" " " " Bonus Pastor.	"	Cathedral, Cefalù. Apse ceiling.
"	" " " " Christ burning books of heresy.	"	" " " " Various saints.
"	Sta. Sabina, Rome. Figure of the Jewish Church.	"	Sta. Maria in Trastevere, Rome. Apse ceiling.
"	S. Paolo fuori le Mura, Rome. Tribune.	"	S. Clemente, Rome. Apse and tribune.
VI.	S. Apollinare Nuovo, Ravenna. Procession of Saints.	XIII.	S. Giovanni in Laterano. Apse.
"	" " " " Procession of Virgins.	"	St. Mark's, Venice. Vestibule: Story of Jacob and Benjamin.
"	" " " " Head of Justinian.	"	" " " " The Flood.
"	S. Vitale, Ravenna. Apse ceiling.	"	" " " " The Creation.
"	" " " " Theodora and her court.	"	" " " " The north-west entrance.
"	" " " " Head of Theodora.	"	Cathedral, Torcello. West wall: Last Judgment (upper part).
"	S. Apollinare in Classe, Ravenna. Feast of Melchisedek.	"	" " " " Last Judgment (lower part).
"	SS. Cosma e Damiano, Rome. Tribune.	XIV.	Sta. Maria Maggiore, Rome. Apse.
VII.	Sta. Agnese, Rome. Apse.	XV.	St. Mark's, Venice. Chapel of the Mascoli.
"	St. John Lateran, Rome. Oratory of S. Venanzio. General view.	XVI.	" " Titian's St. Mark.
IX.	Sta. Prassede, Rome. Vault of Cappella della Colonna.	XVII.	" " Western bay of roof.
"	" " " " Apse and Tribune.	XVIII.	" " Façade: Arch over central entrance.
"	" " " " Saints Paul, Pudenziana, and Zeno.		Frieze: Horniman's Museum. Mr. R. Anning Bell's design.
			Frieze: Whitechapel Art Gallery. Mr. Walter Crane's design.

In addition to the foregoing the walls were hung with a series of paintings representing various examples of ancient Mosaic-work, kindly lent for the occasion by the authorities of South Kensington Museum, together with a numerous collection of photographs belonging to the author.

DISCUSSION OF MR. HARRISON TOWNSEND'S PAPER.

The President, Mr. WILLIAM EMERSON, in the Chair.

MR. WALTER CRANE, who was called on by the President, said he was happy to move a vote of thanks to Mr. Townsend for his very admirable and interesting historical account of the Art of Mosaic. The comprehensive way in which he had expressed himself within the limits of the Paper was no small part of the skill, and no small part of the difficulty, of such a task. With regard to the title "The Art of Pictorial Mosaic," he would only say, judging from the illustrations, that, in most cases, the mosaics which were most decorative were perhaps the least pictorial. While in the progression of the centuries, at least up to the fourteenth, one was aware of an improved drawing, and a beauty of line as far as the human figure was concerned, one was conscious of a certain loss in the vigour and comparative rudeness of the Roman and Byzantine examples, wherein there seemed to be a feeling for pattern as distinct from picture. The mosaic which appeared to him as the most decorative and the most beautiful as to pattern was the Procession of Virgins (from S. Apollinare Nuovo), which consisted of a series of repetitions and gave the effect of an exceedingly handsome pattern, and, as Mr. Townsend's notes on its colour showed, made also a beautiful piece of architectural and mural decoration. There was a saying attributed to William Morris that "Mosaic was like beer—a little of it was no good!" In view of some modern experiments in mosaic, one felt that to be true; it was no good putting little snippets and panels in a building and calling it decoration. For mosaic to take its place as a noble decoration, some sacrifice was required on the part of the architect. He would please the mosaic designer if he just constructed, say, a plain brick vaulted building and left it alone. It was very seldom that the decorator could secure such a clear field; but mosaic was an art in which the stage must be clear if full justice was to be done to it. In one of the examples, that of the Chapel of the Mascoli, St. Mark's, Venice, Mr. Townsend referred to the work as indicating a treatment which he considered reached about the limits in the pictorial direction, and he spoke of the restraint of the designer. It seemed to him, however, that the mosaic designer of that period worked on precisely the same lines as the painter, and there was no struggle between them; the mosaic designer introduced perspective and a considerable amount of background for his pictures, just as the painter would have done, and there was no necessity for any difference between the two. In these days a man has to separate himself from all the things that a contemporary painter is doing, as a rule, and to cast himself, as it were, into a totally different world, not

necessarily the antique world; but, to satisfy the architectural necessities, he has to restrain the decorative work and to sacrifice a great deal of what is popular and current in the pictorial art of his day. That kind of struggle and that kind of difference did not exist in the times when mosaic flourished as a decorative or pictorial work. He very heartily echoed the wish which Mr. Townsend expressed, that more decoration might appear, especially in London, a city, parts of which at least, might be very much gilded inside, but which showed very little gold outside. He hoped that the glorious vision might one day be realised, of London decorated with mural design and colour (instead of posters), when mosaic would take its place on the exterior walls, and give opportunities to designers to do justice to that beautiful art.

MR. R. ANNING BELL, in seconding the vote of thanks, expressed his amazement at the analytical power shown by Mr. Townsend in separating the centuries. He had seen most of the mosaics referred to, but his mind was quite confused as to their dates; he had always looked at them from the craftsman's point of view, not from the historical standpoint. Viewed historically, it appeared that the Art of Mosaic, as shown by the earlier Roman examples, was taken originally from painting, and the earlier work showed less appreciation of mosaic in its proper treatment than did that of the middle period. After the eleventh and twelfth centuries the mosaists seemed to be carried away again by the idea of painting. In the middle period there was not any painting. In the third century, the Roman work showed that the mosaists were men brought up as painters, and they carried the same idea of art into mosaic as they had in their painting. That was carried on by their pupils for some little time, but gradually mosaic dominated, and in the period when there was no painting to call painting—in the tenth, eleventh, and twelfth centuries—mosaic was found at its very best. When painting became prominent again, as it did in the fifteenth century, mosaic began to deteriorate. One very fine piece of work Mr. Townsend had not mentioned—viz. the little piece of mosaic in a tomb in San Zanipolo in Venice, the tomb of a Doge. It is in the chapel, to the left of the choir, and is a most beautiful piece of work, representing the Crucifixion, which shows how good mosaic can be. The tesserae are small, the work extremely well drawn, and thoroughly simple and mosaic in treatment. It belongs to the late fourteenth or early fifteenth century. It was the best piece of late work he knew, and very much better than those in St. Mark's shown by Mr. Townsend. As to the technique, there

was a great deal left to be done which the old masters did not quite touch in their day. He had seen, he believed, all the Italian and Sicilian work, and some little of that done in Egypt—not pictorial, but good work, and charmingly designed. They did not appear ever to have considered the value to be got from the difference in the size of the tesserae and the difference in size of the interstices. Much value could be got by varying the interstices, placing them further apart, and making the tesserae large or small. One could get the emphasis on a piece of work like a face by putting the tesserae quite close and making the particular feature a solid mass with the surroundings rather looser. In that way attention was drawn to the part which was a solid mass, and quality could be got by making the other bits—trees or drapery, &c.—vary with the looseness of the tesserae. Such features of the work could also be made to vary by the size of the tesserae: thus they had two methods of getting variety, but the tesserae must not be made big. He had tried big tesserae, but they looked like tiles, and the effect was most unpleasant. For exterior work they could afford to have the tesserae larger than for interior work. In interior work mystery was the essential beauty of mosaic, whereas for exterior work they could not get mystery, and they should not strive for it. In doing the work inside a low light was wanted, at least a vague and not a direct light—a side light which softened it; and as many lights as possible—not one. The best churches designed for mosaic that he knew were St. Mark's, Venice, and the Cappella Palatina at Palermo. Each of these had the lights low in the dome; but in an ordinary church with nave and transepts it was not quite so effective in getting the colour, as in Monreale, though the mosaics there were of the finest. This applied, perhaps, mostly to gold, and in gold mosaic work (and the old work was mostly gold mosaic), in order to show its beauty to the greatest extent a curved surface was needed, such as over domes; but on the flat it was not quite so successful, and one always felt that the whites, the greens, and blues tell as of greater value than the gold itself. He thought, from the workmen's point of view, in the case of the old work, one must look at it and see if one likes it: they experimented, as we do, and they tried lots of things. He had seen them try red and gold and yellow and gold; the red sometimes came off, but yellow never does. Yellow and gold were like white and silver—each knocks out the other. As to placing the tesserae, he thought they could not make their work satisfactory without placing them from the front on to the wall; they could not do the thing on bits of paper face downward, as had often been done recently. At St. John Lateran there was a fine design—a splendid thing in the old days—

but now it was horrible, and one could not stand it: it was an instance as to how bad execution could absolutely spoil good design. On the other hand, the accidentals can be overdone in the placing of the tesserae. In some modern works it had been carried rather far, and the work presented too many little angles of the bits of glass, with the result that the effect of the masses of colour was lost. There should be moderation in all things, even in broken colour. Another point is that the colours carry rather differently: the colours themselves seem to tell differently, from the spectator's point of view, from what one would expect from a closer view, and they tell differently also according to the different make of the glass itself. The artist buys a lot of glass stuff to use for his mosaic, and he finds that owing to its texture some of it will carry the colour further than other bits, so that he must look to that himself. The man who executes the work will try to match the artist's cartoon as far as a piece of transparent glass can match a piece of water-colour—which is very slightly; but when one gets 50, 70, or 100 pieces, some will carry further than others. Some glasses hold the light more; some are more opaque; some, being transparent, hold a shadow from the piece above; and, apart from the texture of the glass, the colours themselves carry very differently. The blues act rather faintly, and one needs to use blue which looks very strong close to, while on the other hand red carries fairly well. Yellow generally, he thought, was poor: he had not used very much yellow, and so could not be decided about this. The pale sort of flesh colours with a little yellow in them are practically neutrals, and they tell as neutrals a little way off. He had never worked with gold; it was obviously quite a different thing from working with other colours. In outside work gold was seldom a success; even in the old work that he had seen the gold did not suit the outside—the remaining half dome at St. Mark's excepted; but the effect of a half dome is practically that of an interior, as the light is reflected from below: it wants mystery and a vague soft glow to make it look at all well. In the case of gold mosaic the best result in the work is got by using cool colours, and that seems quite natural. If there is a large mass of gold it dominates everything as a warm colour, and what is wanted with it is a cool colour. He found that, doing work without gold, he wanted warmer neutrals.

Mr. T. R. SPENCE said that Mr. Townsend had shown some magnificent examples of mosaic work; but he should like to mention a dome in the shrine of Omar which, as a piece of decorative mosaic, seemed to him the finest thing he had ever seen. It was treated entirely with ornament. It was a very difficult matter to treat a dome with figures, to weave into the work anything in the nature of

a story. If figures were introduced they should be worked into the ornament, and the whole treated from the decorative point of view. He agreed with Mr. Bell that gold should always be used in the interior, because a much greater tone resulted from the variety of the light and shade.

Mr. J. D. CRACE [*H.A.*] said he should like to add his quota of thanks to Mr. Townsend for his excellent Paper, which had been most interesting from the historical point of view. To touch on a technical point, in the use of gold grounds the older mosaists had recognised the great importance of carrying the gold into the subject—not confining the gold entirely to the ground, but allowing it to wander through the drapery of the figures. Only in that way could the figures be saved from becoming too detached from the ground itself. It must have struck everyone in looking at the representations on the screen that there was an entire absence of mouldings; one could not indeed be too much impressed with the fact that mouldings and mosaic did not go together, and that the mosaic treatment must be kept distinct from what one might call architectural expression in the more delicate sense. From that point of view it was fair to deprecate the use of mosaic in little patches, as had occurred only too frequently in this country during the last thirty years, especially in little patches on the level of the eye, a treatment which mosaic was absolutely unfitted for. If it was opposite the light one saw the glare of the gold and nothing else, and if it was against the light one saw practically no subject at all. The earlier wall examples were very few, and Mr. Townsend had not referred to those, for instance, from Pompeii, where there were one or two instances. Mosaic decorations must have been in general use very early in the time of imperial Rome. Pliny says that pavements of mosaic, "*lithostrata*" (of small tesserae), were "first introduced in the time of Sylla, in the Temple of Fortune at Præneste" (*circa* 80 B.C.).* "Since his time," he continues, "they have leapt from the floors to the vaulted roofs of our houses, and *are now made of glass*." The history of mosaic seems to be nearly continuous from that time, and the mechanical treatment to have varied extraordinarily little, considering the variations in many details of the history of art.

COLONEL LENOX PRENDERGAST [*H.A.*] considered the Paper one of the most interesting they had ever had. It was a most careful exposition of the history of a subject of which they knew very little, and he confessed himself to be in the position of asking for the next stage. They wanted to know something more of the technique

of the subject. The popular notion of mosaic decoration seemed to be that an archaic treatment of the subject depicted was inevitable, whereas during 2,000 years architects have made use of this method of decoration, and to no period is it a stranger. The method, however, of execution differs materially, and it would be of the highest interest, for instance, to demonstrate the difference between that adopted in the Chapel of St. Isidore at St. Mark's, Venice, at so fine a period of Italian art, and the more archaic treatment of an earlier date. In the Chapel of St. Isidore the tesserae are of very small size, and apparently devoid of the rough edges of the work done in imitation of the Byzantine version of this form of decoration, and in this respect would be specially serviceable for buildings situated in the sooty atmosphere of our own Metropolis. The matter is of considerable interest at this time, when the shell of a vast building erected specially as a field for mosaic decoration is approaching completion, namely, the new Cathedral at Westminster. Had he still the honour of a seat at the Literature Committee, he would certainly propose that it should make arrangements for a Paper on the natural sequel of the valuable lecture just delivered.

THE PRESIDENT, in putting the vote of thanks, remarked that he also should like to hear something more of the technique of the art—as to what advantages there were in the different positions, in the different sorts of outlines, and the different classes of mosaic, of which specimens had been exhibited; as to what advantages there were in shading, or in broad masses of colour; as to whether colour should be shaded with colour or with brown or otherwise, and also as to the advantages of the different methods of arranging the tesserae, whether in ranges or at random, and similar technical points. He should be very happy to propose that next Session they should devote a special evening to a discussion of the technical side of the art.

MR. HARRISON TOWNSEND, in responding to the vote of thanks, said he might have prefaced his Paper with any number of apologies, and the principal one would have been that he saw exactly the difficulty which had presented itself to the minds of some of the speakers that evening. He might either have treated his subject historically or from the technical point of view, both extremely interesting, but both requiring at least an evening each for adequate treatment. He foresaw that the meeting would end in some such good intention and some such state of conversion as had taken place. He thought the suggestion made by Colonel Prendergast and echoed by the President was a most admirable one, and he hoped an evening would be arranged for the practical consideration of the subject, which had been prefaced by what he had been able to say that evening as to the historical part of it.

* It will be remembered that there exists at Palestrina (Præneste), in the Villa Barberini, a very remarkable mosaic pavement, with Nile landscapes and figures in Egyptian and Greek costumes, which was found on the spot.—J. D. C.



9, CONDUIT STREET, LONDON, W., 23rd March 1901.

CHRONICLE.

The Royal Patronage and Gold Medal.

General Sir Dighton Probyn, V.C., Keeper of His Majesty's Privy Purse, sends the following reply to a letter addressed to him by the President on the subject of His Majesty's Patronage of the Institute and the Royal Gold Medal for the promotion of architecture:—

Marlborough House, Pall Mall, S.W., 15 March 1901.

SIR,—I have laid before the King your letter of the 18th instant, and I am now commanded, in reply, to inform you that His Majesty is happy to grant a continuance of his patronage to the Royal Institute of British Architects.

I am also commanded to state that the King will be glad to offer, as was done by Her lamented Majesty for so many years, an annual Gold Medal to the Institute.—Yours faithfully,

D. M. PROBYN, *General,
Keeper of the Privy Purse.*

The President Royal Institute of British Architects.

This gratifying intelligence was announced by the President at last Monday's meeting, and was greeted by the assembly with warm applause.

As previously stated, the Council have decided not to apply for the Medal this present year, and consequently the usual nomination will not take place.

Building By-laws in Rural Districts.

A deputation appointed by the Council of the Royal Institute of British Architects waited on Mr. Grant Lawson, Parliamentary Secretary to the Local Government Board, on Tuesday the 12th inst., to lay before him the views of the Institute on the question of administration of building by-laws in rural districts, which had already been expressed to the Local Government Board in October 1899, when Mr. T. W. Russell received the representatives of the Institute.*

The deputation consisted of the following gentlemen:—Mr. W. M. Fawcett (*Past Vice-President*), Professor T. Roger Smith [*F.*], Mr. Lacy W. Ridge [*F.*], Mr. H. D. Searles-Wood [*F.*],

* For the report of the Committee see JOURNAL R.I.B.A., Vol. II., pp. 449 *et seq.*

Mr. E. Guy Dawber [*A.*], and Mr. W. J. Locke, *Secretary.*

The points submitted to Mr. Grant Lawson had been summarised as follows:

1. That there has been of late a great increase of interference by public bodies and their officials with buildings in country places.

2. That this has arisen from the Local Government Board having permitted, and in fact encouraged, "rural authorities" to take to themselves "urban powers."

3. That such an assumption of powers by a local authority is an unnecessary and vexatious infringement of the liberty of the individual subject.

4. That it is undesirable, except perhaps in public buildings, that local authorities should relieve private persons from their responsibility for the soundness and sufficiency of their building construction.

5. That there is no desire on the part of the Royal Institute of British Architects to limit the application of such by-laws as are strictly sanitary in their object.

6. That there is no objection to by-laws as to the width of streets being generally applicable, as they would remain inoperative while a district remained rural.

7. That a complete and efficient by-law as to party-walls would sufficiently protect each individual from the danger of fire from his neighbour's premises in country places, in uncrowded districts, and wherever streets are laid out with the width and spaces required by the by-laws.

8. That in such places the minute requirements of the by-laws against fire, founded as they are on the legislation originally passed for overcrowded London after the Great Fire, are unnecessary and vexatious. They are frequently rendered grotesque by the erection of large structures in wood under the form of balconies and verandahs.

9. That the local authorities are practically dependent on the Local Government Board for assistance and direction in framing by-laws.

10. That the scheme of the R.I.B.A. is that the Local Government Board should arrange their Model By-laws in divisions, and sanction in each district only such as are really needed therein, and so protect the public from vexatious interference in building.

11. That this is a matter to be met wholly by administration within the Board, and does not require legislation.

R.I.B.A. Suggestions for Legislation.

1. That the system for dealing with party-walls by the appointment of three surveyors as re-enacted in the London Building Act 1894 has proved successful during a long period.

That it is desirable that it should be extended to the growing suburbs around the districts of the London County Council, to such towns as are without special legislation on the subject, and to England and Wales generally.

2. That it would be desirable to establish a tribunal of appeal in connection with the Local Government Board for settling differences which arise as to the meaning of by-laws and building regulations.

That to be of value the tribunal must act with speed and have technical knowledge.

Mr. Grant Lawson, replying to arguments in support of the above points, said that both the President of the Local Government Board and himself were agreed that evils did exist in the present system of administration of building by-laws, and that there should be a difference in the codification of by-laws for rural and for urban districts. The proposals of the Royal Institute had received careful consideration, and since the appointment of Mr. Walter Long and

himself efforts had been made as far as possible to adopt them. Mr. Lawson first desired to point out that it was not the function of the Local Government Board to take the initiative in the question of district by-laws; the Board only approved by-laws submitted to them by local authorities. It was not in the power of the Board to compel a local authority to adopt any particular set of by-laws. As regards encouraging local bodies to take "urban powers," the Board only did so in cases where very insanitary conditions rendered such a course desirable. With regard to meeting the views of the Institute, the Board had drawn up a set of proposed Model By-laws for Rural District Councils, on which he invited the opinion of the Institute. These by-laws were scheduled as follows:

- (a) Interpretation of terms.
- (b) Exempted buildings.
- (c) Structure of walls and foundations of new buildings for purposes of health. With respect to the sufficiency of the space about buildings to secure a free circulation of air, and with respect to the ventilation of buildings.
- (d) With respect to the drainage of buildings.
- (e) With respect to water-closets in connection with buildings, and with respect to the keeping of water-closets supplied with sufficient water for flushing.
- (f) With respect to earth-closets and privies in connection with buildings.
- (g) With respect to ash-pits in connection with buildings.
- (h) With respect to cesspools in connection with buildings.
- (i) With respect to the closing of buildings or parts of buildings unfit for human habitation and to the prohibition of their use for such habitation.
- (j) As to the giving of notice; as to the deposit of plans and sections by persons intending to construct buildings; and as to inspection by the Council.
- (k) Penalties.
- (l) As to the power of the Council to remove, alter, or pull down any work begun or done in contravention of the by-laws.
- (m) Repeal of by-laws.

Mr. Grant Lawson pointed out that these proposed by-laws were mainly sanitary in their application, and that regulations as to materials and structural details were omitted.

With regard to the request of the Institute for an extension by legislative means of the party-wall system in London to all districts in England and Wales where no special legislation existed, Mr. Lawson said that he could not promise any action this summer, but he would add the subject to the list of Bills which the Local Government Board hoped to introduce at some period during the continuance of the present Government.

The deputation having thanked Mr. Lawson for the courteous action of the Local Government Board in submitting the draft Model By-laws for the consideration of the Institute, and also for the sympathetic manner in which he had received them, then withdrew.

The questions are now before the original Committee of 1899, who are preparing a report to the Council.

Day Classes at the Architectural Association.

The scheme for the establishment of day classes in architecture at the Architectural Association, details of which were given in the last number of the JOURNAL [p. 211], was considered at a special meeting of the Association held on the 8th inst., and unanimously agreed to. The following are a few extracts from the address delivered by Mr. Aston Webb, A.R.A., in moving the adoption of the scheme:—

The question to be considered was whether under the present system, or want of system, a young man entering the profession had sufficient opportunities for properly learning his calling. . . . A young man could enter either as articled pupil to an architect, or as a paid assistant in an office where he might pick up what knowledge he could, gradually working himself into a position where he could obtain work for himself. Was that sufficient? . . . A pupil went into an office and was set to work drawing the Orders and learning the elementary problems of construction, mixing up those pursuits with a certain amount of office work, at first largely consisting of tracing. Now, the idea which occurred to the committee which had gone into this question of day classes, and certainly the idea which presented itself to his mind, was whether drawing of Orders and the acquiring of knowledge of elementary problems of construction—strains and stresses, the weights that various materials could carry, and such general elementary matters—could not be better taught elsewhere than in the office—at all events, for the first year or two of a young man's career. Judging from his own experience, both as a pupil and as one who had had pupils, he was inclined to think that the acquisition of such elementary knowledge could best be started under the direction of an instructor in some such classes as those proposed, rather than in the more or less haphazard, fragmentary way in which it was now acquired. If pupils went through a year or two of such a course, they would enter an office better prepared to learn what they required to know than if they went into the office straight away. To be quite candid in the matter, he must confess that he had had one uncertainty in regard to these proposals. It occurred to him several times that a young man, in going through a course of one or two years in the Association classes (especially in the case of a two years' course), might by chance think that at the end of that course he was a perfectly fledged architect, or fit to go to some office as an assistant, or even start in practice himself. In regard to this fear he wrote to Professor Simpson, who had been carrying on at Liverpool classes of this sort for some time, asking him for his experiences; and in the course of his reply Professor Simpson said that there was not the slightest danger of men, after a short course of systematic training, thinking they could dispense with practical experience in an office. "I hold," continued the Professor, "that the system I have started here is superior to the American or French system, because it does not carry this theoretical and liberal teaching beyond a certain point, and obliges the student to supplement it by a further term of years in an office." . . . The success of the scheme would depend, Mr. Webb thought, to some extent on how far the senior members of the profession would assist in the matter, and that could not be known until the scheme was really started. When started, a practising architect, when a parent brought his boy to him for the purpose of articling him, might help the scheme by saying to the parent: "Let your son take a year's course at the Association schools, during which time it will be seen whether the boy is likely to take to the work; and if he does, at the end of that term I shall be pleased to take him into my office." If members of the profession would assist in that way, he felt sure the scheme

would be a success. He intended to take that course, and he believed that other architects would do the same. It might be said that a young man could not afford to give a year of his time as proposed, and then go into an office; that, however, was not a real difficulty, because there were many men now who could and did spare the time to go to a University, and then enter an office to be articulated. There were many men practising now who had done that to their great advantage, and their three years at the University had not been thrown away, for they had been enabled in that way to learn their art afterwards far more readily than they otherwise would have done.

The Architects' Benevolent Society.

At the General Meeting of the Institute last Monday an earnest appeal was made by the President, Mr. Emerson, on behalf of the Architects' Benevolent Society. Mr. Emerson, who is President of the Benevolent Society, stated that the funds of the Society were in anything but a flourishing condition. He understood that a rumour was in circulation that the Architects' Benevolent Society was so prosperous that the funds at their disposal far exceeded the demands made upon them. How such a report had got about he did not know; he could only say that it was absolutely untrue. At the last meeting of the Council of the Society there were many applications, including cases to which it would have been advisable to have granted such sums as £20 or £25, but as a matter of fact in some cases they were unable to grant more than £5 in consequence of the lowness of the funds. Besides this, there was a deficit on the year of between £40 and £50. Last year an appeal had been made to 5,000 architects to aid the Society by subscriptions, but out of the whole number approached, only ninety responded. He could not think that the circumstance redounded to the honour and dignity of the architects' profession. If each of the gentlemen appealed to had subscribed only a small sum, say half-a-crown or five shillings, the resources of the Society would have been helped to an appreciable extent, and grants-in-relief been made more proportionate to the needs of those who sought the Society's assistance. One of their members, Mr. Macvicar Anderson, already a generous subscriber, was so much impressed with the necessity of increasing the funds by some means that at the annual meeting of the Society he very generously offered to give £50 at once towards reducing their deficit, and he had further promised to increase his donation to £100, provided £900 were forthcoming from other sources to make up the sum of £1,000. Before the meeting separated three gentlemen made up £100 among them,* and he understood that, since, another gentleman, Mr. Waterhouse, had very kindly promised £100. He appealed to members to use their utmost endeavours to find some

* The President, £50; Mr. George Inskipp, £25; Mr. John T. Christopher, £25. Since then Mr. E. A. Gruning has also promised £50.

means of raising the remaining hundreds so as to secure Mr. Anderson's gift. It was, he thought, a very little matter for those who had attained some measure of success in their profession; but if each member would subscribe only a small sum, the funds of the Society would be materially augmented.

Obituary.

We regret to announce the death, at the age of sixty-five, of Monsieur Jules-Jacques Van Ysendyck, of Brussels, Hon. Corresponding Member of the Institute since 1890. Frequenters of the Library will be familiar with M. Van Ysendyck's sumptuous work in five volumes folio, bearing the title *Documents classés de l'Art dans les Pays-Bas du X^{ème} au XVIII^{ème} Siècle*. The work, consisting mainly of illustrations, superb reproductions of drawings and photographs of architecture and kindred crafts, appeared at intervals during the years 1880-89, and a complete set was presented by the author to the Institute in 1894. The work is admittedly the most important addition made of late years to our knowledge of the art of the Netherlands. It was reviewed at length in the JOURNAL, Vol. II.

MINUTES. IX.

At the Ninth General Meeting (Business and Ordinary) of the Session 1900-1901, held on Monday, 18th March 1901, at 8 p.m., the President, Mr. William Emerson, in the Chair, with 23 Fellows (including 9 members of the Council), 26 Associates (including 1 member of the Council), 3 Hon. Associates, and several visitors, the minutes of the Meeting held 25th February [p. 220] were taken as read and signed as correct.

The Hon. Secretary announced the decease of Newton Edward Jennings, M.Inst.C.E., *Fellow* (of Melbourne, Victoria), elected 1867.

The following members attending for the first time since their election were formally admitted and signed the respective registers, viz.: Arthur Conran Blomfield and Charles James Blomfield, *Fellows*; Henry Archibald Tinker and William Edward Benjamin Froome Crooke, *Associates*.

The President announced that his Majesty the King had graciously consented to continue his Patronage of the Royal Institute, and the presentation of the annual Gold Medal instituted by her late Majesty.

The President called attention to the present unsatisfactory financial position of the Architects' Benevolent Society, and appealed for contributions in aid of the Society's funds.

The President, referring to the Paper recently read at the Institution of Civil Engineers on "The Aesthetic Treatment of Bridge Structures," urged members to attend the meeting at the Institution on the following evening, when the Paper was to be further discussed.

The following candidate for Fellowship was elected by show of hands under By-law 9, viz.:

JOSEPH HENRY BREWERTON (Bournemouth).

A Paper by Mr. Harrison Townsend on THE ART OF PICTORIAL MOSAIC having been read by the author, and illustrated by lantern slides, a discussion ensued, and a vote of thanks was passed to the author by acclamation.

The proceedings then closed, and the Meeting separated at 10.15 p.m.

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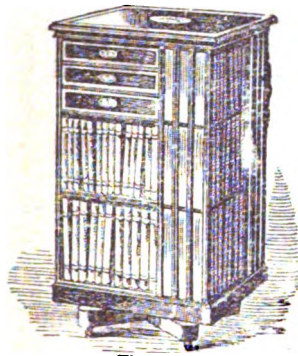
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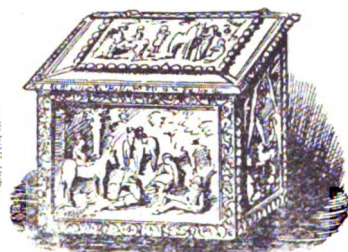
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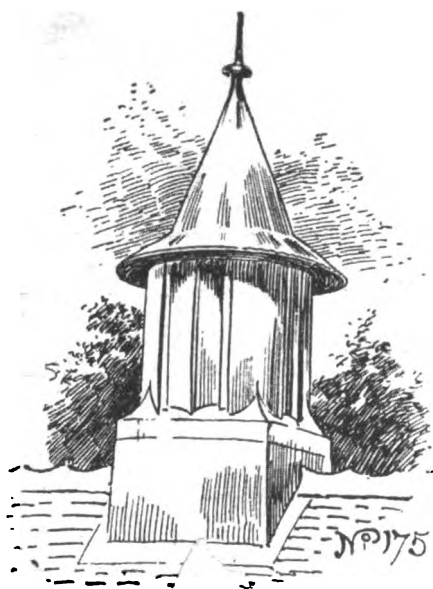
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Nov. 10, 24; Dec. 8, 22; Jan. 12, 26; Feb. 9, 23; Mar. 9, 23; Apr. 6, 27; May 11, 25; June 8, 22; July 27;
Aug. 31; Sept. 28; Oct. 12. *Quarterly Parts:* Jan. 16, Mar. 27, June 12, Oct. 16

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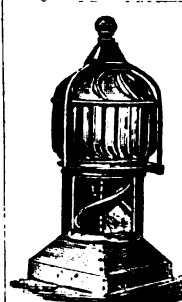
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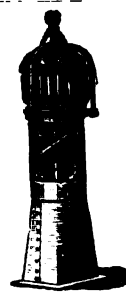


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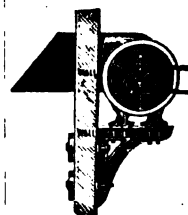
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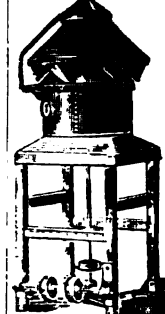
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Fig. 1.—Reverse of the Medal by Caradosso, struck on the first stone of St. Peter's being laid by Pope Julius II., 1506, showing Bramante's first design. (From an engraving by Agostino Veneziano, dated 1617.)

ST. PETER'S, ROME.

THE THIRD ROYAL ACADEMY LECTURE, SESSION 1901.

DELIVERED 5TH FEBRUARY.

By Professor AITCHISON, R.A., *Past President, Royal Gold Medallist.*

I THINK I am bound to give you the names of all the architects, if it be possible, not only of those absolutely engaged in the building of St. Peter's, but of those also who made designs or models that have come down to us: Bernardo Rossellino (Gamberelli) (1409-1461), Donato Bramante (1444-1514), Baldassare Peruzzi (1481-1537), Fra Giocondo (1435-1515), Giuliano da San Gallo (1445-1516), Antonio da San Gallo the younger (1482-1546), Michelangelo (1474-1564), Perino del Vaga (1500-1547), Pirro Ligorio (1530-1580), Jacopo Barozzi da Vignola (1507-1573), Giacomo della Porta (died 1601 or 1604), Domenico Fontana (1543-1586), Carlo Maderno (1556-1629), and Giovanni Lorenzo Bernini (1598-1680).

I told you in the first lecture that, as far as we know, Bernardo Rossellino was the first architect for a new St. Peter's in the days of Pope Nicholas V.; it is generally supposed that the great Leon Batista Alberti worked with Rossellino on some of his former works: that is, that Alberti is supposed to have furnished the architectural designs, and Rossellino the sculpture. This assignment is purely theoretic, as Alberti was a painter, sculptor, and architect, as well as one of the founders of Italian prose, and is introduced by Count

Castiglione in his *Courtier* as one of the speakers at the Court of Urbino. The next architect was Donato Bramante of Urbino, who was appointed by Julius II. I do not know whether he had any aid on his first appointment, but we shortly after read of Antonio da San Gallo being employed as a carpenter to make models, and that when Bramante had the palsy in his hands, Antonio was given him as a draughtsman; but Baron H. de Geymüller gives plans which he says were drawn by Peruzzi for Bramante.

Donato Bramante is supposed to have been born at Castel Durante, in the State of Urbino, in 1444, and died in 1514. Bramante learned to read and write, and employed himself greatly in arithmetic; but his father, who had need of help from his son, seeing that he delighted much in drawing, directed him to the art of painting, and he studied much with Fra Bartolommeo, commonly called Fra Carnavale, of Urbino; but since he always delighted in architecture and perspective, he left Castel Durante and went into Lombardy. He then went to Milan, where he found Cesare Cesariano, who became his pupil, and who afterwards published a translation of Vitruvius in Italian, which he annotated and commented on. This book was published by Gotardo del Ponte in 1521, at Como.

Cesare Cesariano was born in Milan in 1483, and died 1542 or 1546.* He is said to have gone mad from the smallness of the sum he got from the publisher for translating and annotating Vitruvius. In the Como edition of 1521 Gotardo da Ponte, the publisher, tells us that Cesariano abandoned the work before he had corrected the proofs and completed it, and that he had to get Benedicto Jovio and Bono Mavro, two eminent scholars, to finish it, at great expense to himself, and that as Cesariano had abandoned the work he had no claim to the merit of it. It is curious to see how disputes between publishers and authors were as rife four or five hundred years ago as they are now, and how each party tried to throw the blame on the other.

In Cesare Cesariano's annotations to the sixth book of Vitruvius, cap. 5, *On the Symmetry of Triclinia and Exhedras*, he calls Bramante Donatus; he speaks of the distribution of columns in the church of San Satyro, Milan; he also speaks of Santa Maria of St. Celsus, where the columns are put on a podium, while in San Satyro they are put on the ground, p. icix. (99).

Bramante had done many architectural works, but he still continued his painting, and generally signed himself "Architect and Painter." He is said to have met with Julius II. at Bologna, and to have come to Rome in 1500, where he made for Julius II. the design for the new St. Peter's. This, as far as the plan goes, is a very fine one. The nave and transept cross at right angles, and are practically the same width and length. Chapels or disengagements at the entrances keep the aisles clear of the great piers of the dome. The four sacristies at the angles are square, with large niches in each corner; each sacristy has a projecting entrance to the aisles, which, by means of columns, make an irregular octagon; the four solid angles being just half the width of the sides with columns. The nave and transept are about six times as long as they are wide, the width being about 87 feet; the aisles are about 40 feet wide in their narrowest parts, and are about a ninth of their length. The pilasters of the great piers of the dome project beyond the ordinary pilasters, and so make the openings into the nave and transept under the dome rather smaller than the general width. I believe that Bramante had elaborated some formula of numbers to make the whole interior harmonious. The plan, being in the form of a Greek cross, met with great opposition, as was to have been expected. Almost all the plans submitted by other architects were Latin crosses, except those by Peruzzi and Michelangelo; Peruzzi's plan Baron de Geymüller considers to be merely a slightly altered version of one of Bramante's designs. The ecclesiastical prefer-

* It is said that there is a Life of C. Cesariano by the Marquis Poleni, and by De Pagave.

ence for a Latin cross at last overcame the judgment of Bramante and Michelangelo, and so the artistic superiority of the original composition had to give way to combined anti-quarianism and the hatred of the former form of faith, then looked upon as a hateful schism, while the fall of Constantinople to the Turks in 1453 robbed the Greek Church of any influence that the power of the Byzantine Empire might have given it; but all architects

BRAMANTE'S FIRST
DESIGN FOR S^T PETERS.

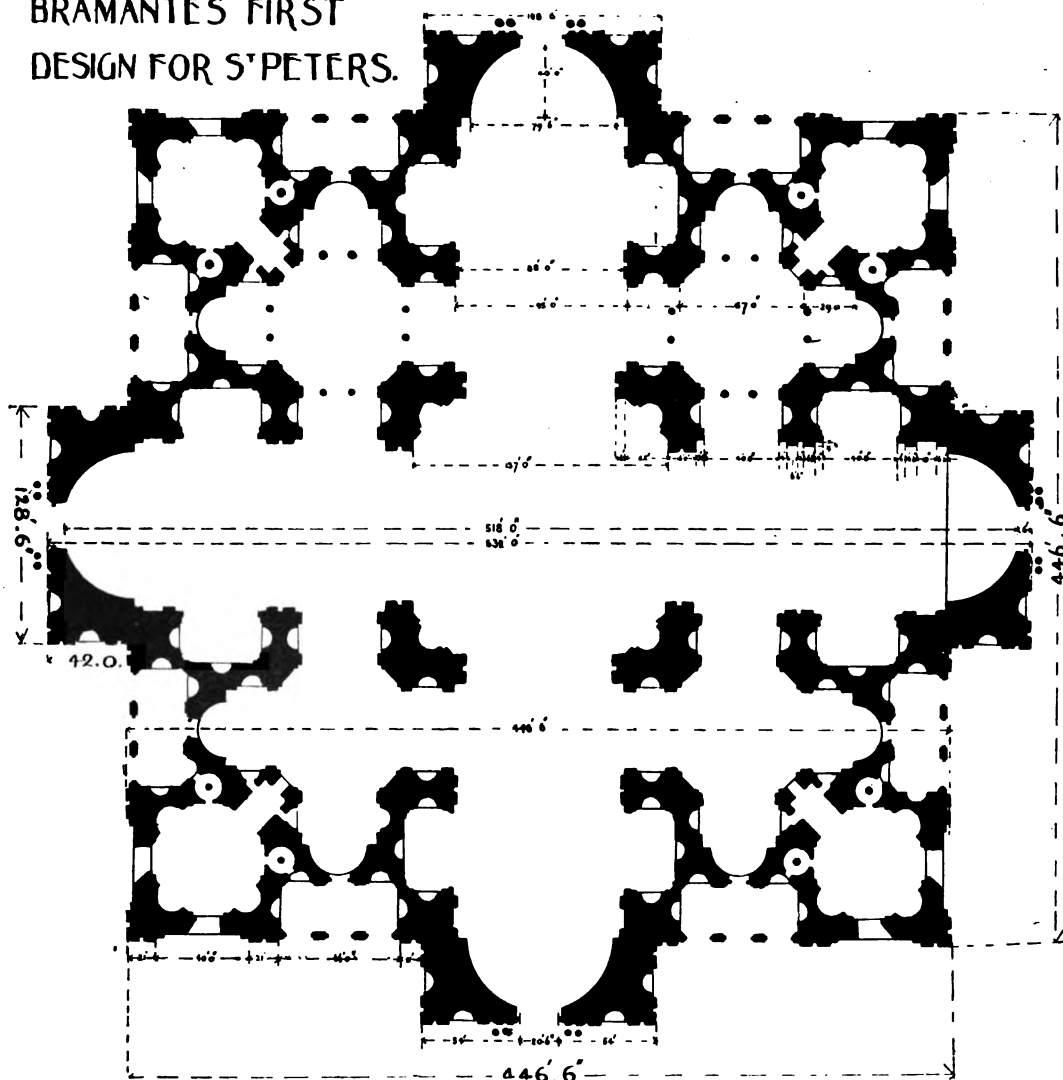


FIG. 2.

will see that a square, from the centre of which rises a large dome, makes a satisfactory composition, as the dome can be equally well seen from every side, if it be surrounded by an open square, as Bramante and Michelangelo proposed; whereas if the dome is over the crossing of the nave and transept of a Latin cross, when seen in perspective in front of the long nave, the effect of the dome is spoiled, for the drum is lost; in fact the dome only can be seen by persons on the pavement in front of the Basilica.

In the hall of Constantine at the Vatican, Giulio Romano painted for Rafael a picture of Bramante as a bald-headed man showing to the Pope a design in the form of a Latin cross for St. Peter's.*

Bramante, who was exceedingly fertile, seems to have made no objection to any of the alterations suggested, or at least he must have carried out in his sketches many of the suggestions offered him, and we have many of his designs with ambulatories round the apses, and even some where the whole body of the Basilica was a Latin cross, while Rafael's plan, as well as those of Giuliano da San Gallo and Fra Giocondo, were all pure Latin crosses.

As Bramante is considered to be the Renaissance architect who has given a particular style to architecture since his time, which has been called the Bramantesque style, it may be well before enlarging on his design for St. Peter's to say something about his works, and I must tell you that it is a most difficult thing to be certain whether a building is rightly attributed to the architect who is generally supposed to be its author. For example, the great Palazzo Pubblico at Brescia has, till quite lately, been attributed to a variety of architects, Fra Giocondo amongst them; but I believe it is now settled that Formentone of Vicenza was the architect, and designed it about 1489, and it was begun in 1492, and yet so little is known of so great a genius that I do not recollect ever noticing any other building that has been attributed to him. There is scarcely a doubt that Bramante built a great many things during his residence in Lombardy besides the dome and apse of the Sta. Maria della Grazie at Milan—for instance, his door to the Duomo at Como; but his works in Lombardy have not been considered of sufficient importance to have the name of the architect affixed, or there is so little certainty about Bramante being the architect that it is generally omitted. We know that Bramante was called in as architect, or assistant or consulting architect, at the Cathedral of Milan to settle the stability of the dome, spire, or lantern, whichever you may call it, of the Cathedral.

I believe there is no doubt that Bramante built the sacristy and the nave modelled in perspective of Sta. Maria presso San Satyro at Milan, which, I am sorry to say, I never saw, though I visited Milan several times when I was a student in Italy from 1853 to 1855. Baron H. de Geymüller has given me permission to use the prints of the church and sacristy [figs. 4, 5, and 6] from his "School of Bramante," in the R.I.B.A. TRANSACTIONS, Vol. VII. New Series. The interior of the sacristy is extremely fine, and is strongly marked by one of Bramante's methods, if we may not call it his discovery. It was usual amongst the Tuscan architects, in the inside of any building, to keep the pilasters a little away from the angles on both sides; but Bramante here put them as one wide pilaster at the angle itself, which gives a look of strength to the angles. Another invention of his with pilasters is to make two comparatively close together and the next two wide apart, as is done in the Cancelleria at Rome. Bramante has here adopted a like device to that of Pietro Lombardo at the Cornaro Spinelli Palace at Venice, of enclosing the round-headed windows of the first floor with a square frame and a cornice to preserve a vertical and horizontal effect. The whole of the interior of the sacristy of Sta. Maria presso San Satyro at Milan was beautifully ornamented with terra cottas by Caradosso. In the centre of the frieze over each archway there are medallions framed by circular wreaths containing very fine heads, and the space between these medallions and the projecting portion of the frieze over the pilasters is filled up with children playing.

I should tell you that a good part of the time of the Renaissance architects was taken up with the repair, reconstruction, or addition to fortified places, and also to forming canals and watercourses. I am by no means sure that Bramante carried out any canals, but he

* *Projets primitifs pour la Basilique de San Pierre de Rome*, par le Baron Henry de Geymüller, plate 28, fig. 1.

certainly had to repair and enlarge many fortifications. He is said to have built a porch, formed by a gigantic vault supported on two stories of double columns, and crowned with a pediment, to the front of the Church of Abbiate Grasso in 1477 ; and he also did some work at Como Cathedral ; on the south side there is a door still called Bramante's door, before

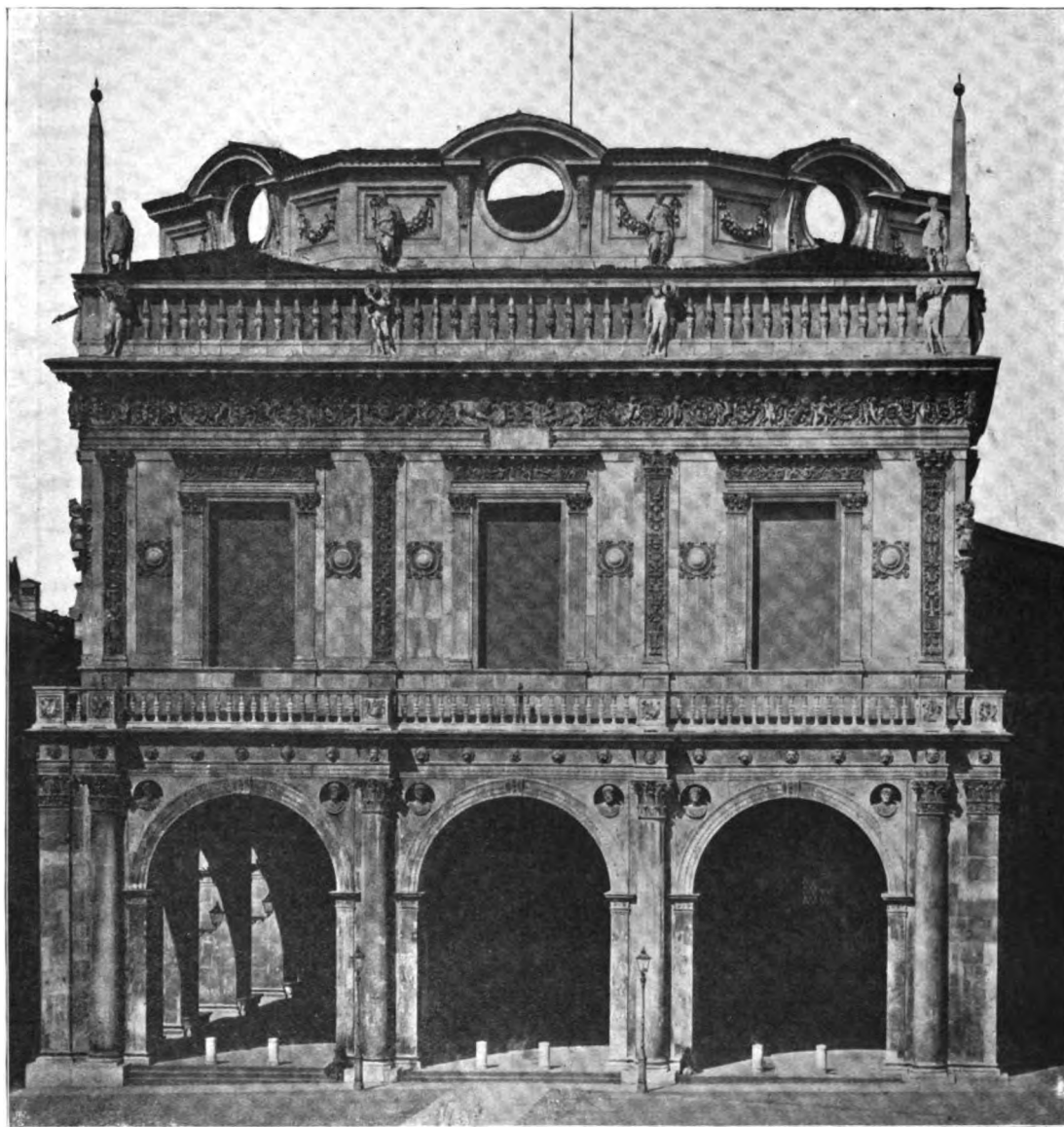


FIG. 3.—FORMENTONE'S PAL. PUBBLICO AT BRESCIA.

mentioned, which was begun in 1491. Since 1495 one of the richest Cardinals, Raffaello Riario, had been building one of the largest palaces at Rome from Bramante's design, now the Cancelleria. Bramante was employed by G. Galeazzi and by Ludovico il Moro ; there is a letter extant, of the 11th December 1493, from the Duke of Milan to his ambassadors at Florence and Rome, commanding them to search for Bramante and order him to return.

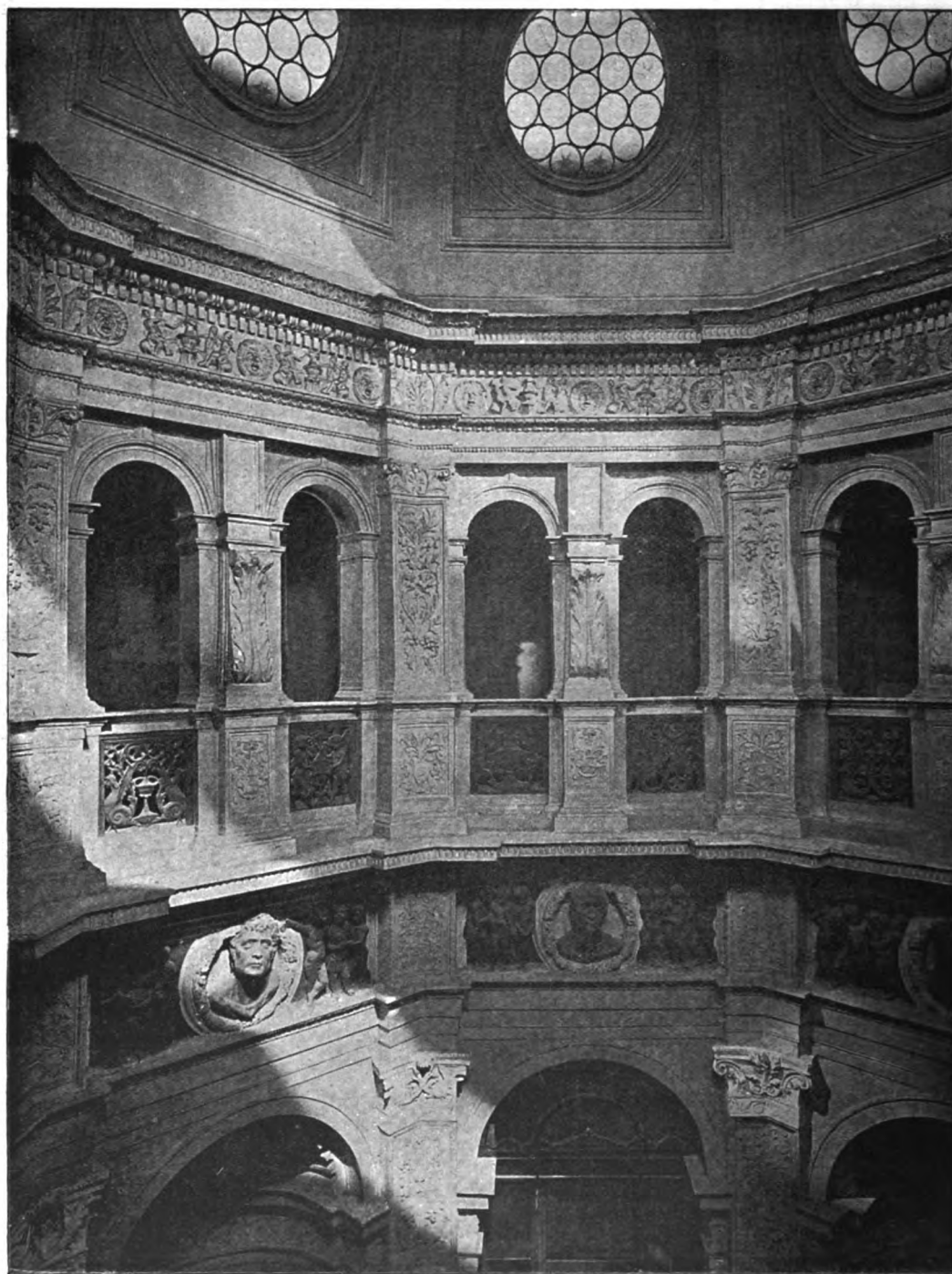


FIG. 4.—SANTA MARIA PRESSO SAN SATIRO, MILAN : UPPER STORY OF BRAMANTE'S SACRISTY.
(From Baron H. de Geymüller's illustration in his *School of Bramante*.)

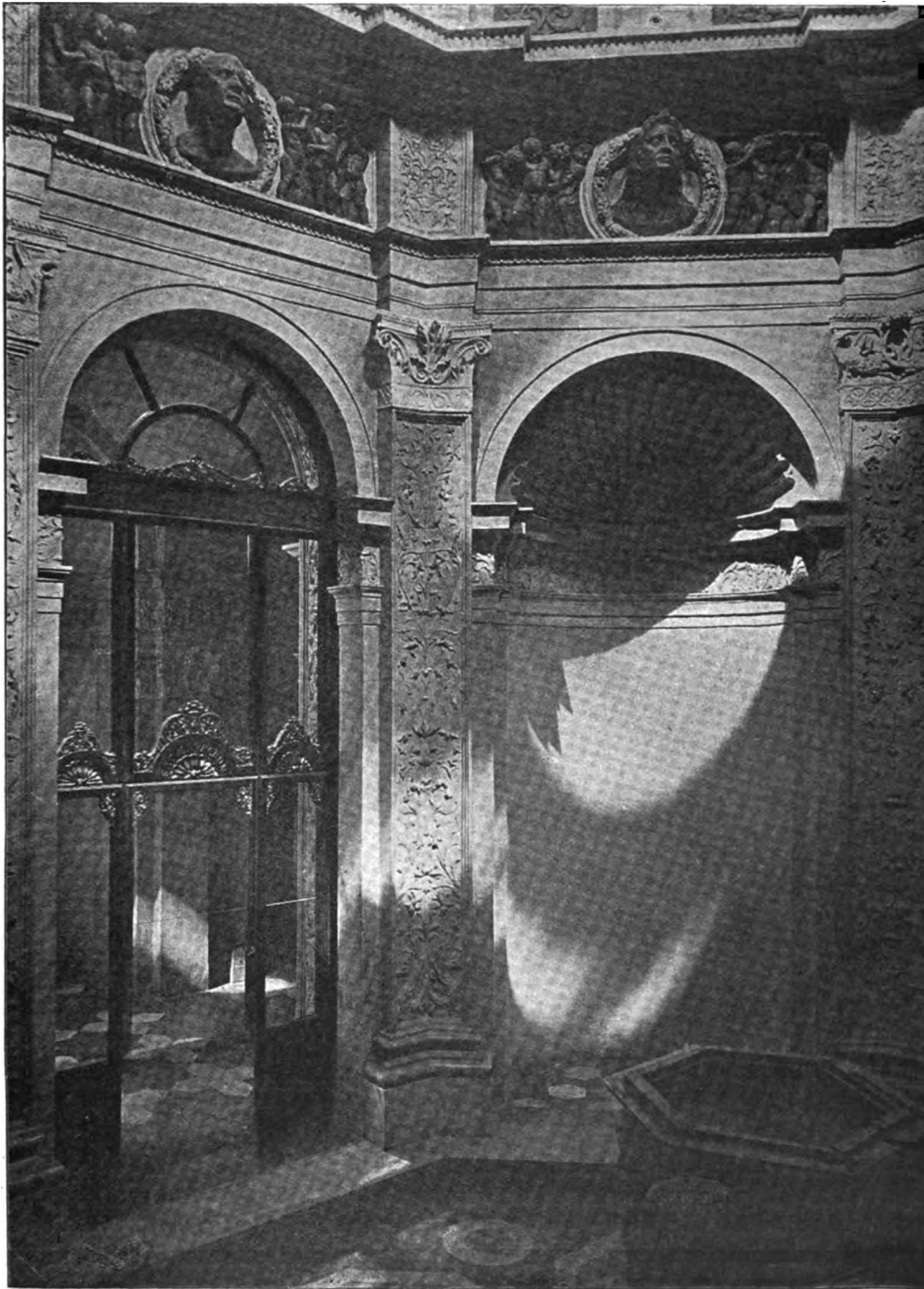


FIG. 5.—SANTA MARIA PRESSO SAN SATIRO, MILAN: LOWER STORY OF BRAMANTE'S SACRISTY.
(From Baron H. de Geymüller's illustration in his *School of Bramante*.)

As I mentioned before, there is so little absolute certainty about any work of the Renaissance architects, except perhaps Michelangelo's, that it has been stated that the Cancelleria Palace itself is not Bramante's work, and that he was not the architect to the palace which he is supposed to have built near the Piazza Scossa Cavalli, now called the Palazzo Torlonia, and once the Giraud Palace, but its peculiar elegance strikes every architect as being his. The cloisters

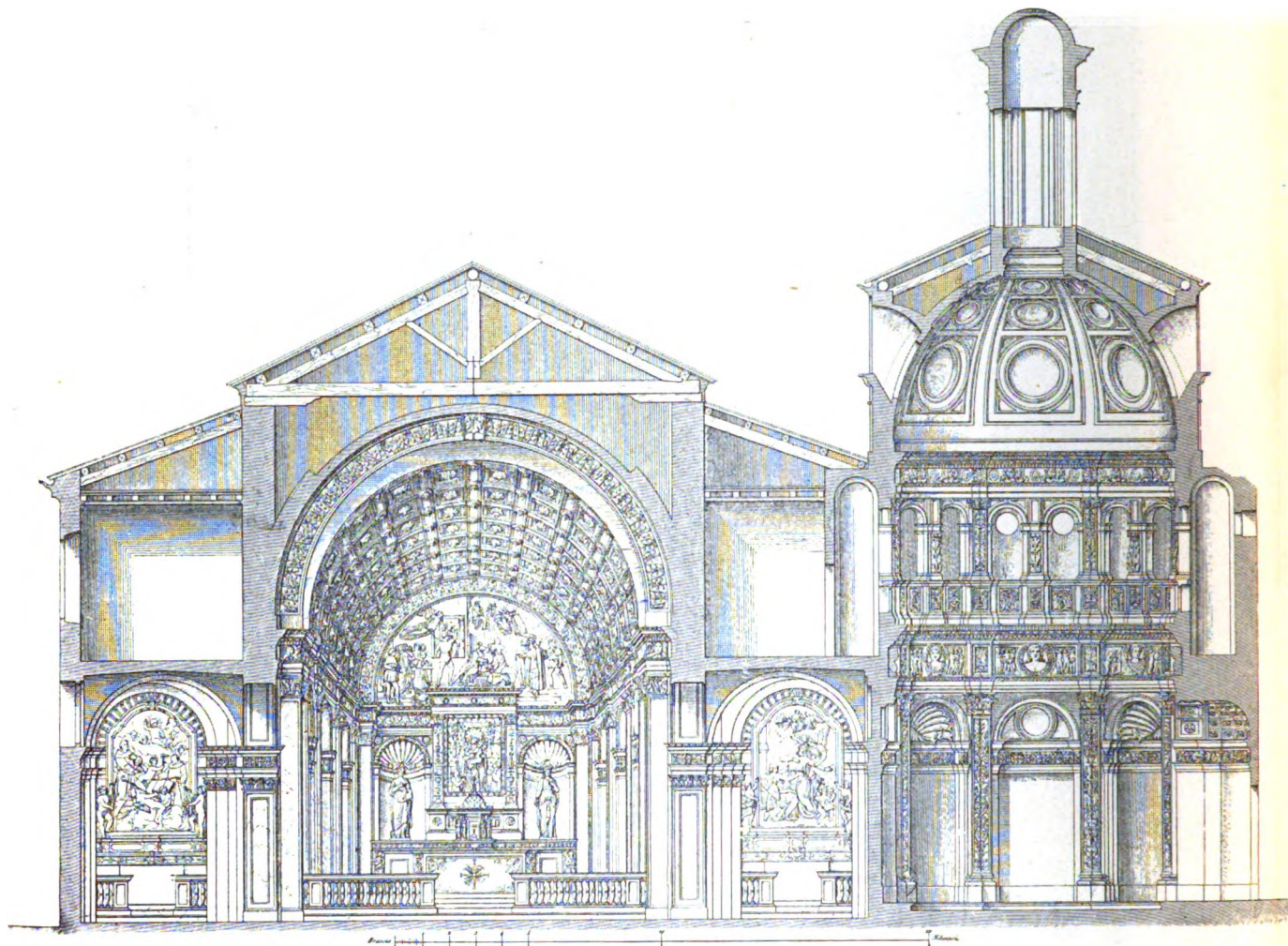


FIG. 6.—SANTA MARIA PRESSO SAN SATIRO, MILAN: SECTION SHOWING THE PERSPECTIVE DECORATION IN BASSO RELIEVO, AND THE SACRISTY.
(From Baron H. de Geymüller's illustration in his *School of Bramante*.)

of Sta. Maria della Pace at Rome are said to have been built by him in 1504, and consist of an arcade with Ionic pilasters in front of the piers, supporting an entablature over which is an unpierced parapet with a capping, while over the pilasters the pedestals of the upper pilasters slightly project, and between the pilasters, so as to be over the middle of each arcade, are small columns supporting an entablature with a modillion cornice; the whole is very simple, but from the beautiful arrangement and proportions it makes a most admired composition. I must mention one thing that Bramante did, he built in the cloisters of San Pietro in Montorio a little chapel over the place where St. Peter is said to have been crucified. The

name Montorio ("The Golden Mount") is from the colour of the sand, a small portion of which is brought up and shown to travellers.

There is one thing I particularly wish to mention before going on with this: it is that we are now almost nauseated with repetitions of the orders—good, bad, and indifferent; but at the Renaissance the neglected ruins of Rome and Italy revealed a new grace to the Italians, and in reading through Vasari you will learn the sort of rapture he felt at some architect



FIG. 7.—BRAMANTE'S CANCELLERIA, ROME.

having found an old Roman base or capital, and used it for some new building. Spenser, who was born in 1553, speaks of "neat Ionic work" as something to be cherished and admired; and Milton, who was not born till the beginning of the seventeenth century (1608–1674), makes Satan's palace of revived Roman architecture. I speak of these matters to make you comprehend the very different feelings with which indifferent Roman architecture was then viewed from the feelings it now evokes, and in considering the effect of St. Peter's you should give that age credit for being charmed with the novelty and the new grace to which it had not been accustomed.

But to return to this chapel of Bramante's, commonly called his "Little Temple." So exquisite did it appear to his contemporaries that Serlio devotes a few sentences to it in his book of Architecture, the plan and elevation filling up two of the pages in his

N N

third book. He says: "On the past page I have said I would show the Little Temple of Bramante larger, which is not very big, but was wholly to commemorate the Apostle St. Peter, because it is on the very place, it is said, where the said Apostle was crucified. The said temple is measured with the ancient Roman foot, which foot has 16 digits, and every digit has

4 minutes, which measure is found in the palm, with which is measured the Pantheon, and on six faces the diameter of this temple is 25 feet and 22 minutes; the distance from the portico round it to the temple is 7 feet, the size of the columns is 1 foot and 25 minutes, the width of the door is $3\frac{1}{2}$ feet. Those little squares with those circles within them, which are round the portico, show the coffers over the columns; the thickness of the wall is 5 feet." This description is on the plan, and he goes on, on the next page: "This is the upright (elevation) of the Temple which on the other side is shown in plan, which represents the outside part, and is all of Doric work, which you can understand from the drawing. As to the particular measurements I do not trouble myself about them, because from the plan you can understand the upright on account of this, that however little it is, it is proportionally drawn and transported with the proper measures from large to small."



FIG. 8.—WINDOW, CANCELLERIA, ROME.

I have already given some account of Bramante's first plan of St. Peter's, which is in many respects a most successful plan, both for the outside composition and the inside, but, as I formerly said, I do not think the front is quite happy, for although we know that the heathen temples had porticoes for shelter, it is rather a method of hiding the appearance of a crowd than of emphasising it. On that little design for the front of St. Peter's, on the back

of which Antonio da San Gallo has written, the entrances are strongly marked by huge vaults, although the bell-towers are too wide for the frontage itself. In reality we know nothing of Bramante's proposed finishing of the interior; there is a partially finished perspective, found by Letarouilly, supposed to be by Bramante, but this was, I think, made after the proposed ambulatories were put round the apses. (Plate 21 in Geymüller's book.) There are Corinthian columns or pilasters to the great piers of the dome in the transept and in the choir, and also in the choir itself; these columns or pilasters have no bases. The only thing I may remark here is, that nearly every design that was given after that first one of Bramante's was more or less in the shape of a Latin cross, *i.e.* the plans of Fra Giocondo, Giuliano da San Gallo, Rafael and Antonio da San Gallo and the rest, except Baldassare Peruzzi's and Michelangelo's, who had adopted a Greek cross for the plan. It is not difficult to account for this, as the bulk of the Romanesque and Gothic churches were in this form, and, like everything else, architecture begins from something, whether it be a cave or a wooden hut.

I have mentioned before the ecclesiastical objections to a Greek cross, and it is natural that the architects who hoped to get the work would endeavour to please the important ecclesiastics by whose influence they hoped to obtain it.

The following is a *rough translation* of what Vasari says: "It is seen in this part, which was finished by himself, that the cornice all round the inside runs in a graceful manner, and that the design of this no hand can lessen or take away. One sees in his capitals, which are of olive leaves, and in the whole outside work, strangely beautiful work of a Doric character. So great was the intellect of Bramante that truly if he had had strength equal to the wit with which his spirit was adorned, he most certainly would have made more unheard-of things than he did, because at present this work, as is said in its own place, has been since his death much disordered by the architects, and to such an extent that one may say that of the four outward arches which support the Tribune there is not remaining one of his, because Rafael d'Urbino and Giuliano da San Gallo, executors of the work after the death of Julius II., together with Fra Giocondo of Verona, began to alter it, and after the death of these Baldassare Peruzzi, making in the cross towards the Campo Santo a chapel for the King of France, altered the order, and under Paul III. Antonio da San Gallo changed it altogether, and then Michelangelo Buonarrotti, disregarding so many varying opinions and reducing the superfluous expense, brought it to that beauty and perfection that no one of the previous successors to Bramante had ever thought of, everything coming to this perfection from Michelangelo's design and judgment, although, as he himself said to me many times, he was only the executor of the design and arrangement of Bramante, since those who first plan a great edifice, they are the authors." And Michelangelo writing to a friend thus expresses himself: "One cannot deny that Bramante was as excellent in architecture as any one has been from the ancients to now. He placed the first stone of St. Peter's, not full of confusion, but clear, neat, and luminous, and isolated all round in such a way that it injured no part of the Palace and was held to be a beautiful thing, as is still apparent, in such a way that any one who has departed from the said order of Bramante, like San Gallo has done, has departed from the truth."

I think that what Michelangelo called the first stone were the four piers and the arches over them for the drum of the dome.

Considering that Bramante and Michelangelo did not very well agree at first, and had quarrels about the Sistine Chapel, I do not think a more splendid testimonial to the excellence of his design could be desired than this of Michelangelo's after he had made himself thoroughly acquainted with Bramante's scheme.

THE HIGHER EDUCATION OF ARCHITECTS.

By ARTHUR CATES [F.].

VI. L'ÉCOLE SPÉCIALE D'ARCHITECTURE—M. ÉMILE TRÉLAT.

N EARLY forty years have passed since the Professor of Civil Construction at the Conservatoire des Arts et Métiers, deeply impressed by the imperfect nature of the architectural education then afforded by the Ecole des Beaux-Arts, and by the length of time occupied in obtaining it, such as it was, conceived the idea of establishing a school which, although not gratuitous, but requiring payment of adequate fees to maintain its operations, should in fact be more economical for the student than the gratuitous school, by reason that its teaching would be more effective, and in three years would produce results more satisfactory to the student desiring to practise in the profession of architecture than could ordinarily be obtained in six, eight, or even ten years in the free school.

This school should unite in itself the complete system of instruction necessary for thorough preparation for the profession of an architect. The instruction should be based on three main principles:

1. The acquisition of a series of absolute attainments which would constitute the technical knowledge of the architect.
2. The guiding and exalting the intelligence of the artist to a complete appreciation of the true aims of art in architecture, and in developing its methods of expression.
3. The assimilation of the preceding by the actual exercise of their application in drawing and composition in design, in which the art of drawing is of the highest importance.

Actuated by these considerations, and by the fact that architecture was the only liberal profession which had not a special and complete course of instruction appropriated for it, M. Emile Trélat projected the *Ecole Centrale d'Architecture*, which should supply that professional instruction for the architect at which the Ecole des Beaux-Arts did not aim.

To attain this end he founded, 9th August 1864, the Société de l'Ecole Centrale d'Architecture à responsabilité limitée, capital 400,000 francs, increased in 1868 to 500,000 francs (£20,000).

The capital of this limited company was raised from 180 subscribers of all classes, imperial princes, ministers of State, deputies, architects, engineers and contractors; and the statutes provided that the profits, if any, should be appro-

priated first to form a reserve fund of 100,000 francs, then to payments to the shareholders of 5 per cent. on their capital, and the balance to the formation of a redemption fund for the capital.

The "Ancien Hôtel de Chaulnes," in the Rue d'Enfer, was acquired and converted into the school, which was opened 10th November 1865 with 54 students admitted from 78 candidates who had applied and submitted to the Entrance Examination. In 1866 there were 78 candidates examined, of whom 54 were admitted to the school.

Generous friends of the school, the Government and publishers, aided it by liberal gifts of important and valuable books, scientific collections, works of art, collections of casts, and the founding of prizes, and work progressed so well and received such favourable recognition by the Government that in 1870 the Ecole was reorganised, with a capital of 600,000 francs contributed by 180 subscribers, without expectation of profit, as *l'Ecole Spéciale d'Architecture reconnue, Etablissement d'Utilité Publique*, and a small annual subvention was granted by the State.* This recognition was given notwithstanding the remodelling in 1868 of the system of education in the Ecole des Beaux-Arts, which may have been in some degree influenced by the action of M. Trélat and the success of his Ecole.

The Ecole then removed to its present location, 136 Boulevard du Mont Parnasse, and is a remarkable testimony of what can result from the untiring energy and devotion of one man, giving himself entirely to the attainment of his object, and knowing how to bring and keep together a band of teachers who will carry out his ideals, and whom he can inspire with his own enthusiasm, to provide by lectures and classes the instruction necessary for thorough professional education, to conduct the ateliers so as to free the artist from artificial trammels, and while bringing into action his productive powers reduce his work and digressions into method, free his imagination, train his hand and eye, and form his taste.

The success of M. Trélat's efforts in rivalry with the Ecole des Beaux-Arts naturally aroused the bitter hostility of the supporters of the system of the older institution, who scoffed at the Ecole

* In the budget for the current year 1901, this subvention is stated as 20,000 francs (£800).

Spéciale as adapted to produce decent masons, but not architects. In 1872 M. Charles Garnier, himself a Grand Prix de Rome and architect of the New Opera House, severely criticised designs by two Professors and two pupils of the Ecole Spéciale exhibited in the Salon of that year, denouncing in no measured terms the system of teaching which infected the atmosphere in which the students lived, and by the artistic utopias inculcated inducing them to pass their time in indefatigable studies, aiming to so turn and twist stones and monuments that they may resemble nothing which has ever previously existed. A smart controversy ensued with M. Trélat, who summed it up that if M. Garnier considered architecture as a *permanent* art, he advocated it as *evolutionary* and *progressive*; and the jury of the Salon confirmed this view by awarding a first medal for architectural design to one of the four exhibitors, and a prize to another.

The profession of architecture requires technical instruction which has no place in the studio of the artist, and artistic education which cannot be obtained in scientific schools; the Ecole Spéciale aims at assisting both in its course of instruction.

The Teaching Staff numbers twenty-eight in all, of whom two are "chefs d'atelier," one professor of drawing, twenty professor lecturers, and five instructors. The course is for three years, the school period being from 10th October to 10th July, and the vacation from 10th July to 10th October.

The fee for tuition for each year is 850 francs (£34), payable in advance in four amounts. The school hours are from before 10 a.m. to 5 p.m., with an interval of one hour. The chief work is done in the ateliers, supplemented by that of the drawing schools and of the lectures, and by competitions on given subjects, conferences in which the work of the competitors is discussed, and examinations on the subjects of the lectures.

In the third class (first year) the lectures are more important than the ateliers, and in the second class (second year) also, while the time occupied in the ateliers assumes its greatest importance in the first class (third year), the distribution of time being generally for the first two years five hours in the atelier and drawing school, in the first making designs on set subjects, in a progressive course; in the latter developing the art of drawing, and working out subjects of all kinds arising from and illustrating the lectures; one hour appropriated to a lecture or oral instruction, and one hour as interval. The progress of individual students is checked during the session by examination on each branch of tuition, and by a general examination at the end of each scholastic year.

During the vacations pupils are expected to produce original work on some architectural subject, by drawings, sketches and restorations, and reports, which on their return to the school

have marks allotted to them to be added to those previously gained. Each year forms a class, and pupils are passed on from one to the other, on condition of having satisfied the several examinations and competitions of the year and the requirements of vacation work.

At the end of the third year a competition for the *Diplôme de l'Ecole* is held, which occupies from 1st May to 1st October, the period from 1st May to 10th July being devoted to working out a design on a programme set by the Director, and from 10th July to 31st September on vacation work.

There is also a special competition in applied hygiene for the certificate of *Architecte Salubriste*.

Admission to the Ecole is gained by passing an Entrance Examination, held in Paris, and, if required, in the provinces.

The applicant must produce a drawing of ornament from the round, a drawing in plan, elevation, and section of a building produced from a figured sketch, an essay in French, and must submit to examination in *Arithmetic*, including cube root, rule of three, simple interest, discount, arithmetical and geometric progression. *Algebra*, including quadratic equations, compound interest and annuities. *Geometry*: plane geometry, polygons, circles, the position of a point and plane in space, solid geometry, polyhedrons, spheres, cones. *Trigonometry*, its principles, formulæ, and applications. *Descriptive Geometry*: projection, intersections, &c. *History and Geography*: the distribution of land and water on the globe surface, latitude and longitude, isothermal lines, climate, the races of man, the political geography of Asia and the East, the political geography of Europe.

A special class of instruction is established to prepare students to pass the Entrance Examination; it is held from 1st October to 31st July, and the charge for instruction is 70 francs (£2 16s.) per month, or 630 francs (£25 4s.) for the nine months' preparatory tuition, which comprises—(1) daily exercises in the atelier in architectural drawing and elementary architectural composition; (2) drawing from the cast (ornament and figure) for six hours a week; (3) courses of lectures on mathematics, geometry, descriptive geometry, history and geography, and literary composition.

The general programme of instruction to be followed in the three years' course is divided between the ateliers, the drawing school, and the lectures.

In the *Ateliers* the Professors guide and instruct the pupil in the competitions of design, explain the programmes, and watch over the work in all its details.

In the *Drawing School* the studies are developed from the cast and from the life, and all pupils are required to attend three times a week for two hours each.

The *Lectures* are given in nineteen distinct

courses, the subjects of each of which may be generalised thus:—

1. *Stereotomy*: 40 lessons.—Intersections of surfaces and solids, masonry, vaults, groins, domes, stairs, timber framing, timber floors and roofs, cast and wrought iron and its management, iron framings and roofs, iron castings, &c. &c. (*First year.*)
2. *Physics*: 80 lessons.—General properties and forms of matter, heat, hygrometry, meteorology, magnetism, electricity, electro-magnetism, acoustics, light. (*First year.*)
3. *Chemistry*: 25 lessons.—General principles, oxygen, hydrogen, water, its properties, analysis, filtration, purification, atmospheric air, refrigerators, sulphur and its products, chlorine, silex and silicates, sand, carbon, its products and combinations, potash, saltpetre, lime, aluminium, clay, iron, zinc, tin, lead, copper, bronze, &c. &c. (*First year.*)
4. *Surveying, Levelling, and Topography*: 10 lessons.—The survey and construction of topographical plans, theory and practice of the use of surveying instruments, town and house surveys, triangulation, levellings, field exercises. (*First year.*)
5. *Stability of Constructions*: 45 lessons, in two sections, viz.: *Introduction*, 20 lessons.—I. Algebra. II. Analytic geometry, trigonometry, graphic arithmetic. III. Mechanics, kinematics, dynamics, statics, graphic statics. (*First year.*)
Stability: 25 lessons.—I. Strength of materials, resolution of forces, tension, compression, shearing, flexion, coefficients of resistance and safety, modulus of elasticity. II. Beams, loaded uniformly or unequally, with several bearings, timber floors, iron floors and framings, columns, piers, arches in metal. III. Masonry, walls, retaining walls, abutments, vaults. IV. Framed systems, beams, trusses, arches, &c. (*Second year.*)
6. *Geology*: 12 lessons.—The earth and general principles, rocks and fossils and geological succession, rocks and minerals, terrestrial heat, hot springs, artesian wells, volcanoes and earthquakes, geological periods, application of geology, minerals and rocks used in construction, manufactures and arts. (*First year.*)
7. *Natural History*: 16 lessons.—Anatomy, physiology and classification of plants useful for ornamental compositions, the character and behaviour of flowers, plants, and trees, with which the architect should be acquainted, for landscape and garden design; the organisation and classification of animals, of those species used in design. (*First year.*)
8. *Shadows*: 12 lessons.—The theory and practice, and the application as illustrated by examples. (*First year.*)
9. *Perspective*: 12 lessons.—General principles, linear perspective, atmospheric perspective, solution of various problems, consideration of expeditious procedure. (*First year.*)
10. *Applied Physics*: 15 lessons.—Heating, fuel, smoke, radiation, hot air, electricity, loss of heat by walls, window ventilation, tables and formulæ, ventilation: theory and practice, water supply and distribution, gas fitting, lightning conductors, electric lighting, &c. (*Second year.*)
11. *Applied Chemistry*: 24 lessons.—Manufactures: terra cotta, bricks, tiles, pottery, porcelain, glass, enamel. Metals: cast iron, wrought iron, steel, zinc, nickel, lead, tin, copper, bronze, &c. &c. Cementing materials: limes, cements, béton, concrete, asphalt, plaster, straw, &c. Preservation of materials: silicates, tar, paraffin, painting in distemper oil, &c. (*Second year.*)
12. *Applied Mechanics*: 16 lessons.—Work and its measurements, living and mechanical motive powers, use of machines in construction, machines and appliances for raising solid bodies, for raising liquids, methods of transport, working plant for public works, &c. (*Second year.*)
13. *Construction*: 95 lessons.—Matter, its stability in various forms; materials, their groupings, constructive properties, and varied natures; foundations, piers, walls, floors, vaults, roofs, roof coverings, drainage, precautions against insufficiency of material, defective workmanship, weak points of support, the stability and duration of edifice, the quantity, quality, and proper use of materials. (*Second year.*) The theoretic instruction is supplemented by visits to works in progress, workshops, and factories.
14. *Building Contracts and Accounts*: 20 lessons.—Relations of architect with clients and contractors, specifications, general conditions of contract, quantities, estimates, schedule of prices, contracts, agreements, measurements, accounts, details of various trades. (*Second year.*)
15. *Hygiene*: 20 lessons.—General ideas on anatomy and physiology, the influence of climate, site, and surroundings on health, the hygienic conditions which should exist in places inhabited by man or animals, warming, ventilation, drainage, sanitary legislation. (*Second year.*)
16. *Building Law*: 17 lessons.—The law:—Courts of justice, ordinary and administrative tribunals, real estate, personal property, public property, ways, roads, canals, streams, rivers, departmental and communal property, ownership, means of acquisition, prescriptive possession, restrictions on ownership, mines, quarries, servitudes of various descriptions, party walls, fences, prospect, line of frontage, levels, height

of buildings, materials of construction, dangerous structures, military requirements, insanitary and dangerous factories, expropriation for public service, contracts for work and for labour, specifications and estimates, the architect, his position, remuneration, privileges, and responsibilities, sanitary legislation, insanitary dwellings. (*Third year.*)

17. *Political Economy*: 14 lessons.—General considerations, theory of wealth, cost of production, barter, money, credit, rent, Government control, regulations affecting property, contracts, labour, police, industrial undertakings, labour and capital, bills of exchange, relations of contractors and workmen, profit sharing, emigration. (*Third year.*)
18. *History of Architecture*: 45 lessons.—The comparative history of every period of the art, of antiquity in the East, Egypt, Greece, and Rome, the Middle Ages, the Renaissance, and in modern times the causes which determine the visible effects are sought out, and the means by which they have been produced demonstrated. (*Third year.*)
19. *Theory of Architecture*: 20 lessons.—The theory of art in general, the principles which govern and influence architectural designs in conception, arrangement, and execution. (*Third year.*)

Of these nineteen chairs or lectureships, three, building law, hygiene, and political economy, have been founded and endowed by private persons, the first by an English lady, Dr. Emily Bovill Sturge,* who made the acquaintance of M. Trélat in discussing his paper on "Working-Class Dwellings" at the International Congress of Hygiene, 1878, became interested in the *Ecole Spéciale*, and in 1885 endowed this chair.

The yearly "séances d'ouverture," presided over by some highly placed and distinguished man in the State, in letters, or in art, supported by others of like standing, are marked by the eloquent and

impassioned addresses of the energetic founder and director, reviewing the year's work of the school, and particularly the studies of ancient buildings made during the vacation, the students' work being publicly exhibited on these occasions.

In 1900 nineteen diplomas were granted as the result of the final examinations and competitions, and ten certificates in Sanitary Science.

The old students who have passed a satisfactory leaving examination have established the *Société des Anciens Elèves de l'Ecole Spéciale d'Architecture*, numbering some 850 members, natives not only of France but coming from many countries, as Roumania, Greece, Turkey, Asia Minor, Hayti, Egypt, Poland, Spain, Mexico, Argentina, Brazil, &c., thus widely spreading the instruction received in Paris, and the influence of French art.

For the past ten years the advantages given to State-supported schools, as the *Ecole des Beaux-Arts*, by the possibility of students obtaining partial exemption from military service by successful progress there, has affected this *Ecole*, reducing the total number of students from over 100 to about 80. The present annual rate of admission is about 80 successful out of 40 who come up for the Entrance Examination. About 27 pass by examination from the third to the second class, and about 22 from the second to the first class.

The *Ecole Spéciale* is distinguished from the *Ecole des Beaux-Arts* by its express object of providing the high and complete professional training of the architect; its aims are less highly artistic than those which lead up after eight or ten years or more of constant study to the gaining of the Grand Prix de Rome, &c., by students highly qualified by natural talents, but these aims are necessarily more precise and exact, since they must be attained in three or four years, during which period this strict professional training demands from all the pupils constant daily attendance at the schools, and continuous home work, besides the vacation studies, conditions which do not exist in the *Ecole des Beaux-Arts*, where the student has more freedom in the occupation and distribution of his time.

The whole aim and object of M. Trélat's efforts in the cause of an architectural education may be summed up in three words, adopted as the motto of the *Ecole*, "*VIS SUPERBA FORMÆ.*"

* Emily Bovill Sturge, Doctor in Medicine, Paris, Officer of the Academy, studied medicine in Edinburgh, and four years in the medical schools of Paris; established in practice in London in 1877, but, her health failing, died at Nice 1886.



9, CONDUIT STREET, LONDON, W., 6th April 1901.

CHRONICLE.

The Institute Form of Contract.

The main business before the meeting last Monday was the consideration of various amendments to the Institute Form of Conditions of Contract. As explained at the meeting in December, when the matter was last before the Institute, some two or three years ago the Council was approached by the Institute of Builders with a view to getting such modifications made in the Form as would render it acceptable to both parties. The Council had thereupon appointed a Special Committee to meet representatives of the Institute

of Builders and discuss the matter. Several meetings were held, which resulted in the series of amendments brought before the general body last December. In consequence of opposition on the part of members to the arbitration clause as amended, the Council decided not to press the matter at that meeting, but to postpone it for further consideration. The Chairman informed the Meeting last Monday that subsequent negotiations showed that it had been impossible to come to any agreement with the Institute of Builders as to an arbitration clause which would be mutually satisfactory. As, however, the whole of the clauses had been overhauled, and in order that the labours of the Committee might not be wasted, the Council brought the amended clauses forward again with a view to taking the sense of the general body on the advisability of adopting such of them as seemed desirable, and remitting them to the Council so that they might be put into proper shape and a revised Form be issued.

Mr. Edwin T. Hall [F.], who explained to the Meeting the reasons for the various amendments, was a member of the special committee deputed to discuss the matter with the Institute of Builders.

The clauses as they stand in the existing Contract Form, and the clauses as amended, are printed below in parallel columns:—

The Original Clauses.

1.—The works shall be carried out in accordance with the directions and to the reasonable satisfaction of the Architect in accordance with the said Drawings and Specification, and in accordance with such further drawings, details, and instructions in explanation of the same as may from time to time be given by the Architect. The Contract Drawings and Specification shall remain in the custody of the Architect, and shall be produced by him at his office as and when required by the Employer or by the Contractor.

12.—The Contractor shall not vary from the Drawings or Specification except as provided by Clause 5, or by the authority of the Architect, which is to be sufficiently proved by any writing or drawing given by him or by any subsequent written approval by him. If the work shown on any of the details or the further drawings or details referred to in Clause 1, or necessary to comply with any instructions, directions, or explanations which may be given from time to time by the Architect, be, in the opinion of the Contractor, in excess of that comprised in the Contract, he shall, before proceeding with such work, give notice in writing to this effect to the Architect. In the event of the Architect and Contractor failing to agree as to whether or not there is any excess, and of the Archi-

The Amended Clauses.

1.—The works shall be carried out in accordance with the directions, and to the reasonable satisfaction of the Architect, in accordance with the said Drawings and Specification, and in accordance with such further drawings, details, and instructions in explanation of the same as may from time to time be given by the Architect. If the work shown on any such further drawings or details, or necessary to comply with any such instructions, directions, or explanations, be, in the opinion of the Contractor, in excess of that comprised in the Contract, he shall, before proceeding with such work, give notice in writing to this effect to the Architect. In the event of the Architect and Contractor failing to agree as to whether or not there is any excess, and of the Architect deciding that the Contractor is to carry out the said work, the Contractor shall accordingly do so, and the question whether or not there is any excess, and if so the amount thereof, shall, failing agreement, be settled by the Arbitrator as provided in Clause 32, and the Contractor shall be paid accordingly. The Contract Drawings and Specification shall remain in the custody of the Architect, and shall be produced by him at his office as and when required by the Employer or by the Contractor.

12.—The Contractor shall, when authorised by the Architect, or as provided by Clause 5, vary by way of extra or omission from the Drawings or Specification; such authorisation is to be sufficiently proved by any writing or drawing given by the Architect, or by any subsequent written approval by him. No claim for an extra shall be allowed unless it shall have been executed under the provisions of Clause 5, or by the authority of the Architect as herein mentioned. Any such extra is hereinafter referred to as an authorised extra.

The Original Clauses.

tect's deciding that the Contractor is to carry out the said work, the Contractor shall accordingly do so, and the question whether or not there is any excess, and if so the amount thereof, shall, failing agreement, be settled by the Arbitrator as provided in Clause 32, and the Contractor shall be paid accordingly. No claim for an extra shall be allowed unless it shall have been executed under the provisions of Clause 5, or by the authority of the Architect as herein mentioned. Any such extra is hereinafter referred to as an authorised extra.

17.—Any defects, shrinkage, or other faults which may appear within months from the completion of the works, arising in the opinion of the Architect from materials or workmanship not in accordance with the Drawings and Specification or the instructions of the Architect, or any damage to the pointing by frost appearing within the like period, shall upon the directions in writing of the Architect, and within such reasonable time as shall be specified therein, be amended and made good by the Contractor at his own cost, unless the Architect shall decide that he ought to be paid for the same; and in case of default the Employer may employ and pay other persons to amend and make good such defects, shrinkage, or other faults or damage, and all expenses consequent thereon or incidental thereto shall be borne by the Contractor and shall be recoverable from him by the Employer, or may be deducted by him from any moneys due or that may become due to the Contractor. Should any defective work have been done or material supplied by any sub-contractor or other person* employed on the works who has been nominated or approved by the Architect, the Contractor shall be liable to make good in the same manner as if such work or material had been done or supplied by the Contractor, and been subject to the provisions of this and the preceding clause.

* The omission of these words "or other person" is the sole difference between the original and the revised Clause 17.

20.—No sub-contractor or other person nominated by the Architect shall be employed upon the works against whom the Contractor shall make what the Architect considers reasonable objection, or who will not enter into a contract with the Contractor guaranteeing the due performance of his work, and indemnifying the Contractor against any claims arising out of misuse by the sub-contractor or his workmen of any scaffold erected or plant employed by the Contractor, or that may be made against the Contractor in consequence of any act, omission, or default of the sub-contractor, his servants or agents.

21.—The Contractor shall be responsible for all structural and decorative damage to property, and for injury caused by the works or workmen to persons, animals, or things, and shall hold the Employer harmless in respect thereof. He shall also be responsible for all injuries caused to the buildings, the subject of this Contract, by frost, or other inclemency of weather, and shall reinstate all damage caused by the same, and thoroughly complete the whole of the works.

28.—The provisional sums mentioned in the Specification for materials to be supplied or for work to be performed

The Amended Clauses.

17.—Any defects, shrinkage, or other faults which may appear within months from the completion of the works, arising in the opinion of the Architect from materials or workmanship not in accordance with the Drawings and Specification or the instructions of the Architect, or any damage to pointing by frost appearing within the like period, shall upon the directions in writing of the Architect, and within such reasonable time as shall be specified therein, be amended and made good by the Contractor at his own cost, unless the Architect shall decide that he ought to be paid for the same; and in case of default the Employer may employ and pay other persons to amend and make good such defects, shrinkage, or other faults or damage, and all expenses consequent thereon or incidental thereto shall be borne by the Contractor and shall be recoverable from him by the Employer, or may be deducted by him from any moneys due or that may become due to the Contractor. Should any defective work have been done or material supplied by any Sub-Contractor employed on the works who has been nominated or approved by the Architect, the Contractor shall be liable to make good in the same manner as if such work or material had been done or supplied by the Contractor, and been subject to the provisions of this and the preceding clause.

20.—All Specialists, Merchants, Tradesmen, or others executing any work, or supplying any goods for which prime cost prices or provisional sums are included in the Specification, who may at any time be nominated, selected, or approved by the Architect, are hereby declared to be Sub-Contractors employed by the Contractor; but no such Sub-Contractor shall be employed upon the works against whom the Contractor shall make what the Architect considers reasonable objection, or who will not enter into a Contract with the Contractor upon terms and conditions consistent with those in this Contract, and securing the due performance and maintenance of the work supplied or executed by such Sub-Contractor, and indemnifying the Contractor against any claims arising out of the misuse, by the Sub-Contractor or his workmen, of any scaffold erected or plant employed by the Contractor, or that may be made against the Contractor in consequence of any act, omission, or default of the Sub-Contractor, his servants or agents, and against any liability under the Workmen's Compensation Act 1897, or any amendment thereof.

21.—The Contractor shall be responsible for all structural and decorative damage to property, and for injury caused by the works or workmen to persons, animals, or things, and shall hold the Employer harmless in respect thereof, and also in respect of any claim made under the Workmen's Compensation Act 1897, or any amendment thereof, by any person in the employ of the Contractor. He shall also be responsible for all injuries caused to the buildings, the subject of this Contract, by frost or other inclemency of weather, and shall reinstate all damage caused by the same, and thoroughly complete the whole of the works.

28.—The provisional sums mentioned in the Specification for materials to be supplied or for work to be performed

O O

The Original Clauses.

by special artists or tradesmen, or for other works or fittings to the building, shall be paid and expended at such times and in such amounts and to and in favour of such persons as the Architect shall direct, and sums so expended shall be payable by the Contractor without discount or deduction, or (without prejudice to any rights of the Contractor existing under the Contract referred to in Clause No. 20) by the Employer to the said artists or tradesmen. The value of works which are executed by the Contractor in respect of provisional sums, or in additional works, shall be ascertained as provided by Clause 13. At the settlement of the accounts the amount paid by the Contractor to the said artists or tradesmen, and the said value of such works executed by the Contractor, shall be set against all such provisional sums or any sum provided for additional works, and the balance shall be added to or deducted from the contract sum.

29. - The Contractor shall, unless otherwise stated in the Specification, provide and erect all necessary scaffolding and plant for the due execution by the artists and tradesmen referred to in the preceding clause of the work entrusted to them. He shall also permit of the execution of work by any other artists or tradesmen who may be engaged by the Employer.

32. - Provided always that in case any dispute or difference shall arise between the Employer or the Architect on his behalf and the Contractor, either during the progress of the works or after the determination, abandonment, or breach of the Contract, as to the construction of the Contract, or as to any matter or thing arising thereunder (except as to the matters left to the sole discretion of the Architect under Clauses 4, 9, and 19, and the exercise by him under Clause 18 of the right to have any work opened up), or as to the withholding by the Architect of any certificate to which the Contractors may claim to be entitled, then either party shall forthwith give to the other notice of such dispute or difference, and such dispute or difference shall be and is hereby referred to the arbitration and final decision of

or, in the event of his death or unwillingness or inability to act, of

or, in the event of his death or unwillingness or inability to act, of a person to be appointed on the request of either party by the President for the time being of The Royal Institute of British Architects, and the award of such Arbitrator shall be final and binding on the parties. Such reference, except on the question of certificate, shall not be opened until after the completion or alleged completion of the works, unless with the written consent of the Employer or Architect and the Contractor. The Arbitrator shall have power to open up, review, and revise any certificate, opinion, decision, requisition, or notice, save in regard to the said matters expressly excepted above, and to determine all matters in dispute which shall be submitted to him, and of which notice shall have been given as aforesaid, in the same manner as if no such certificate, opinion, decision, requisition, or notice had been given. Upon every or any such reference the costs of and incidental to the reference and award respectively shall be in the discretion of the Arbitrator, who may determine the amount thereof, or direct the same to be taxed as between solicitor and client or as between party and party, and shall direct by whom and to whom and in what manner the same shall be

The Amended Clauses.

formed by special artists or tradesmen, or for other works or fittings to the building, shall be paid and expended at such times and in such amounts and to and in favour of such persons as the Architect shall direct, and sums so expended shall be payable by the Contractor without discount or deduction, or (without prejudice to any rights of the Contractor existing under the Contract referred to in Clause No. 20) by the Employer to the said artists or tradesmen. The value of works which are executed by the Contractor in respect of provisional sums, or in additional works, shall be ascertained as provided by Clause 13. At the settlement of the accounts the amount paid by the Contractor to the said artists or tradesmen, and the said value of such works executed by the Contractor, shall be set against all such provisional sums or any sum provided for additional works, and the balance, after allowing *pro rata* for the Contractor's profits at the rates contained in the Contractor's original estimate, shall be added to or deducted from the contract sum, provided that in estimating the amounts paid as last herein provided no deductions shall be made by or on behalf of the Employer in respect of any damages paid by the sub-contractor to the Contractor, the intention being that the Contractor and not the Employer shall have the benefit of any such damages.

29. - The Contractor shall permit the execution of work by any other artists or tradesmen who may be engaged by the Employer.

32. - Provided always that in case any dispute or difference shall arise between the Employer or the Architect on his behalf and the Contractor, either during the progress of the works or after the determination, abandonment, or breach of the Contract, as to the construction of the Contract, or as to any matter or thing arising thereunder (except as to the matters left to the sole discretion of the Architect under Clauses 4, 9, and 19, and the exercise by him under Clause 18 of the right to have any work opened up), or as to any objection by the Contractor to any certificate, finding, decision, requisition, or opinion of the Architect, or to the withholding or failure by the Architect to give the same, then either party shall forthwith give to the other notice of such dispute or difference, and such dispute or difference shall be and is hereby referred to the arbitration and final decision of

or, in the event of his death or unwillingness or inability to act, of

or, in the event of his death or unwillingness or inability to act, of a person to be appointed on the request of either party by the President for the time being of the Royal Institute of British Architects, and the award of such Arbitrator shall be final and binding on the parties. And the Arbitrator shall have power to determine all such matters in dispute except as aforesaid which shall be submitted to him, and of which notice shall have been given as aforesaid. The works shall not be stopped pending such reference excepting by the direction in writing or award of the Arbitrator. If either party desires to have such dispute or difference determined forthwith, he shall give written notice to that effect to the other party, and the Arbitrator shall, with the assent in writing of the other party, proceed with the arbitration. In the event of the other party failing within days of such notice to give to the other his assent in writing to the immediate determination of such dispute or difference, the Arbitrator shall, after written notice to the non-assenting party of a time and place of hearing, decide whether such dispute or difference shall be immediately

The Original Clauses.

borne and paid. This submission shall be deemed to be a submission to arbitration within the meaning of the Arbitration Act 1889.

The Amended Clauses.

determined or whether such determination shall await the completion or alleged completion of the works, and the same shall be determined at such time or times as the Arbitrator shall decide. If in any such reference the Arbitrator shall be of opinion that either party has been unreasonable or vexatious or dilatory either in invoking or in insisting upon reference or in the mode of its conduct, or that injury from delay or otherwise has been occasioned thereby to the other, he may by his award indemnify the latter in respect of such injury. Upon every or any such reference the costs of and incidental to the reference and award respectively shall be in the discretion of the Arbitrator, who may determine the amount thereof, or direct the same to be taxed as between solicitor and client, or as between party and party, and shall direct by whom and to whom and in what manner the same shall be borne and paid. This submission shall be deemed to be a submission to arbitration within the meaning of the Arbitration Act 1889.

Discussion.

Mr. EDWIN T. HALL [F.] moved the acceptance of the amended Clause No. 1. The clause was identical with the existing Clause 1, excepting that a portion of the old Clause 12 had been transferred to it, because it came in fitter sequence there than in Clause 12, which dealt with variations. There was no practical change involved.

Mr. MAURICE B. ADAMS [F.] seconded, and the motion, having been put to the Meeting, was carried.

Mr. HALL, in moving the adoption of the amended Clause 12, pointed out that the old clause laid down that the contractor should not vary from the drawings except by the authority of the architect. One or two solicitors to members of the Institute, however, had drawn attention to the fact that there was nothing in the Contract which said that the builders should vary by order of the architect. It was quite possible that a builder might refuse to vary at all, and that there was no power given to the architect to compel him to vary. Therefore, instead of its being put in the negative form, that he shall not vary except by the authority, it now reads that the contractor "shall, when authorised," vary. That, with the transposition of a portion of the old clause to Clause 1, as already explained, was the only change made in the clause.

Mr. H. HARDWICKE LANGSTON [A.] seconded.

Mr. C. H. BRODIE [A.], referring to the fact that the old Conditions gave no power to the architect to compel the carrying out by the builder of extra works, said that an actual case was brought before the Practice Committee, and they reported upon it to the Council; and he was glad to see that an alteration making in the direction they wished for had been proposed. But he did not think the change went quite far enough. He would move the insertion of the words "instructed or," so that the clause should read, "the contractor shall, when *instructed or authorised* by the architect"; and, lower down, the insertion of the words "instruction or," so as to read "such *instruction or* authorisation is to be sufficiently proved," &c.

Mr. Brodie's amendment having dropped for want of a seconder, the original motion was put from the Chair and carried.

Mr. HALL moved the adoption of the amended Clause 17. The only change was the omission of the words "or other person," as explained in the note. The words had been taken out to meet an objection of the builders that, supposing the employer brought upon the works a separate contractor with whom the head contractor himself

had no relation whatever, it was not fair that he (the head contractor) should be responsible for anything done by the separate contractor. That was felt to be a perfectly just objection, and therefore the words "or other person" were omitted. It meant in effect that if any defective work was done by the chief contractor or any of his sub-contractors, persons mentioned in the specification, he (the chief contractor) was to be responsible, but he was not to be responsible if it was done by a person with whom he had no relation whatever.

Mr. LANGSTON moved an addition to the second part of Clause 17, so that it should read, "Should any defective work have been done or material supplied by any sub-contractor employed on the works who has been nominated or approved by the architect, *and whose nomination the contractor has also approved,*" or words to that effect. He wanted to mark the contractor's consent to the nomination and approval of the architect.

After some further discussion Mr. LANGSTON withdrew his amendment in favour of a proposal by Mr. SLATER to insert the words "subject to Clause 20" after "nominated or approved by the architect."

Mr. HALL having suggested that "as provided in Clause 20" would meet the case better, Messrs. SLATER and LANGSTON agreed to the modification, and the Meeting adopted the clause with those words inserted as indicated.

Mr. HALL moved the adoption of Clause 20, and explained the reason for its amendment. It was radical, but very essential. He had been professionally engaged in a very heavy lawsuit, and the amendment was the outcome of it. The point involved was this: In a large contract he was concerned in, there had been no dispute or difference at all with the builder until the end of the contract, but then the builder took the point that any sub-contractor who was nominated or approved by the architect *ipso facto* became a contractor of the employer, and that the builder was absolutely relieved of any responsibility for anything done by the sub-contractor; and not only that, but if he caused delay the employer was liable in damages to the builder. The Divisional Court had decided in favour of the employer. This decision was appealed against, and the appeal was heard last Friday, but the Court of Appeal had not at present delivered judgment. It was to avoid such a contingency again that this amendment was proposed, and the Council of the Institute of Builders had agreed to the alteration. The clause now provided that "all specialists, merchants, tradesmen, or others executing any work, or

supplying any goods, for which prime cost prices or provisional sums are included in the specification, who may at any time be nominated, selected, or approved by the architect, are hereby declared to be sub-contractors employed by the contractor." That, the Council of the Institute contended, was the practice; the Institute of Builders had assented to it, and therefore these words were introduced.

Mr. HUDSON seconded the clause, which was thereupon put from the Chair and carried.

Mr. SLATER moved Clause 21, which he said simply brought in the Workmen's Compensation Act.

Mr. MAURICE B. ADAMS seconded, but thought it should be specified that the contractor should provide for watching. He had sometimes found a difficulty in getting watching done, and things were damaged by persons intruding on the premises. It might be useful with a troublesome man to have a penalty for deficient watching.

The CHAIRMAN thought that that was a matter to put in the Specification rather than in the Contract.

Clause 21 was then put and carried.

Mr. HALL, moving Clause 28, said he would try to explain what was rather an intricate point. The old clause provided that at the settlement of the accounts the amount paid by the contractor to the special artists or tradesmen shall be set against the provisional sums, and the balance shall be added to or deducted from the contract sum. The point that arose was this: If the contractor entered into a sub-contract providing that if the sub-contractor did not complete his work by a given date he should pay as liquidated and agreed damages the sum of, say, £12 a week to the contractor, under the wording of the old clause those damages would enure to the benefit, not of the contractor, but of the employer. That had been decided by the Court. Therefore they had endeavoured to correct this, which was a great hardship on the builder, and contrary to their intention in drawing up the original clause. The new clause showed clearly that the contractor, and not the employer, should have the benefit of any such damages. Such a provision was manifestly in the builder's interest, and also in the interest of the employer, because if the builder could not get those damages a new relation was created, where the employer might conceivably be responsible.

Mr. SLATER seconded, the clause was put and carried.

Mr. HALL went on to move Clause 29, explaining that there was a difference here which must be carefully noted. The old Form provided that "The contractor shall, unless otherwise stated in the specification, provide and erect all necessary scaffolding and plant for the due execution by the artists and tradesmen referred to in the preceding clause of the work entrusted to them." That was now omitted, it being held that that was a matter that ought to go into the specification. Personally he thought it would have been better in the contract; but as long as they did not forget to put it in the specification it was all right. That was the only difference between the old and the amended clause.

Mr. MAURICE B. ADAMS asked what the objection was to having it in the contract. Was it that they should be allowed to use the scaffolding on shifting it sufficiently?

The CHAIRMAN explained that the contractor could not estimate what amount of scaffolding he would have to erect, fix, and take down. They therefore thought it better that any amount of scaffolding to be provided for special purposes should be put in the specification rather than appear as a general condition in the contract.

Mr. MAURICE B. ADAMS seconded, and the clause after some further discussion was agreed to.

Mr. G. H. FELLOWES PRYNNE [F.] moved the rejection of the amended Clause 32, and that the present Clause 32 should remain as part of the Form, with the addition of No. 16 to the excepted clauses; that is to say, that the

matter in parentheses should read as follows: "(except as to the matters left to the sole direction of the architect under Clauses 4, 9, 16, and 19, and the exercise by him under Clause 18 of the right to have any work opened up.)" It was most material that Clause 16 should be included among the exceptions. For a contractor to have the power at any time during the contract to call for an arbitration seemed to him a most dangerous thing. The architect was often now placed in a position of very considerable difficulty, but his difficulties would be considerably increased if the builder should, at any time an architect was dissatisfied with a certain number of bricks, immediately demand an arbitration. The worry to the client and the worry to the architect himself would be almost inconceivable. Again, wholly independent of that, the architect's position would be entirely undermined. Supposing that the architect condemned a certain amount of timber, and that the builder at once demanded an arbitration. It was often extremely difficult in the country to get an arbitrator down at a moment's notice, and therefore it meant certain delay to the works in progress. The arbitrator, again, might be an excellent arbitrator in every point, yet might not at all judge of material in the same way as the experienced architect; therefore it was a most dangerous clause, as weakening the position of the architect in the eyes of his client. Then, again, there was a third point: the Builders were prepared to accept almost any condition put before them if the Institute would accept this one; their one idea was to get this condition of arbitration on the materials. It meant taking away entirely the architect's one power in this contract—namely, that of condemning materials in a case of necessity. It had been said that there were architects who condemned materials viciously. Such men he thought were very few and far between. Their one idea was to get what they believed to be fair for men who were thoroughly experienced in their professional work, and they could not draw up conditions for those who were incompetent or vicious.

The SECRETARY, at the request of members, read Clause No. 16, and it being the general opinion of the Meeting that Clause 16 should be included, Mr. FELLOWES PRYNNE formally moved the rejection of the Amended Clause 32; and, having been seconded by Mr. MAURICE ADAMS, the motion was put from the Chair and carried.

Mr. FELLOWES PRYNNE then moved the insertion of the figure "16" between "9" and "19" in the present Arbitration Clause.

Mr. PRYCE CUXSON seconded, and the motion was agreed to.

Mr. HALL thought that the amendment would render necessary a slight alteration in Clause 16—that the following words would have to be added: "and in respect of all matters herein the Architect's decision shall be final."

The CHAIRMAN thought that very possible, and the matter would be drawn attention to when the matter came before the Institute for its final sanction.

Mr. PRYNNE suggested that the Conditions should be printed on foolscap size as well as the larger size if necessary. The large paper of the present Form was very inconvenient for binding up.

Mr. SLATER suggested that it would be an improvement and a great convenience if the Agreement now printed on the first page were printed on a separate sheet. It was often necessary to attach additional conditions, and this was an awkward matter with the Form as at present issued.

The CHAIRMAN stated that these suggestions should be borne in mind in getting out the new Form.

Mr. PRYCE CUXSON [F.] said there was a point under Clause 13 which had cropped up in his practice as a surveyor which he should like to call attention to. [The speaker read the material part of the clause, which is as follows:

13.—“No variation shall vitiate the contract; but all authorised extras for which a price may not have been previously agreed, and any omission which may have been made with the knowledge of the Architect, or without his knowledge, provided he subsequently give a written sanction to such omission, shall be measured and valued, as herein-after provided, by *
and a copy of such measurement and valuation shall be given to the contractor.]

Mr. CUXSON assumed that whoever framed that clause did not mean that the contractor should have power to call upon the surveyor to give a copy of his dimensions, and yet the clause was quite capable of that interpretation. Moreover, he was sure he was correct in saying that it was not the usual practice for quantity surveyors in London to supply the contractors with a copy of the valuation account—the bill account—unless they paid the cost of copying such bill.

Mr. HALL said that “measurement” was certainly ambiguous as a phrase.

Mr. BRODIE suggested that the passage should read “a copy of the bill of such measurement shall be given to the contractor.” That was what they meant.

Mr. CUXSON said that the wording he proposed was as follows: “And a copy of the bill of such measurement and valuation shall be supplied to the contractor on payment by him of the costs thereof.”

The CHAIRMAN said that was a matter they could not deal with at the Institute; they could not deal with a payment between a quantity surveyor and a builder.

Mr. MAURICE B. ADAMS [F.] thought that as they put the surveyors' names down, they were certainly justified in saying what they should do, and they certainly should not do it without any payment.

The CHAIRMAN said he had no objection to their saying what they should do, but he had an objection to the question of payments between a builder and a quantity surveyor being introduced in that room.

Mr. SLATER said that if there was this ambiguity it had better be cleared up. If those words gave the contractor the right to ask for the whole of the measurements, there was not the slightest possible objection to altering it so that it should only be a bill or statement.

Mr. HALL agreed that there was objection to the present wording, although he had not realised it before. He thought the expression “bill or statement” would meet the difficulty, otherwise it might mean 2,000 pages of figures, and that would cost about £20 perhaps.

After further discussion, Mr. SLATER proposed the following wording: “And a copy of the bill or statement of such measurement and valuation.”

This was seconded by Mr. HALL, and the motion being put from the Chair was carried.

The CHAIRMAN, in conclusion, announced that the Council would bring the revised document in its entirety before the next meeting for the final sanction of the Institute before issuing.

Special Election to Fellowship.

At the meeting of the Council on the 1st inst. the following gentleman, being President of the Aberdeen Society of Architects, and found by the Council to be eligible and qualified for membership under the Charter and By-laws, was elected a Fellow of the Royal Institute:—

ARTHUR CLYNE, of 128½, Union Street, Aberdeen.

Consulting Architect to the Government of Bombay.

With respect to the President's announcement last December that the India Office had desired his assistance in the appointment of a Consulting Architect to the Government of Bombay, and inviting members inclined to offer themselves for the post to communicate with him, it remains to be stated that the President selected two names from among several applications received, and submitted them to the Secretary of State for India, together with testimonials, and photographs and drawings of their works, and that the choice of the India Office fell on Mr. John Begg [A.], *Ashpitel Prizeman, Pugin Student 1890, Essay Medallist 1894.*

Mr. Begg, it may be mentioned, had to relinquish practice in Johannesburg on the outbreak of the war.

Protection of Buildings from Lightning.

A Committee, to be known as the Lightning Research Committee, has been organised by the Institute Council and the Council of the Surveyors' Institution, with the object of collecting and tabulating information from all parts of the country as to damage resulting to buildings from lightning-stroke.

The Committee owes its inception to Mr. Killingworth Hedges, who in his Paper on “The Protection of Public Buildings from Lightning,” read before the Institute in April last year, referred to the difficulty experienced by experts in getting accurate information as to injuries sustained by lightning-struck buildings, and urged the desirability of an inquiry by a recognised authoritative body as to how far buildings are rendered lightning-proof by modern systems of protection. Mr. Killingworth Hedges having since approached the Council on the matter, and secured the co-operation of the Surveyors' Institution, a committee consisting of the gentlemen mentioned below has been appointed. Towards the Committee's expenses the Institute Council have voted £25 per annum for three years; a similar vote is anticipated from the Surveyors' Institution, and applications for grants in aid of the inquiry are being considered by the Royal Society and other institutions.

The Lightning-Rod Conference, as the result of an exhaustive inquiry extending over three or four years, drew up and published with its Report in 1882 a Code of Rules for the Erection of Lightning-Conductors, which has served practically as a text-book on the subject up to the present time. Since the general adoption of these rules, however, no certain information has been collected on the effect of lightning-strokes on buildings provided with conductors. The present inquiry, therefore, by the collection of precise data, may serve to test in some measure the results accruing

from the rules laid down by the Lightning-Rod Conference nearly twenty years ago.

The Committee is constituted as follows:

Mr. John Slater, B.A. [*F.*], *Chairman*.
 Major-General E. R. Festing, C.B., F.R.S.
 (Victoria and Albert Museum, South Kensington).
 Mr. J. Gavey, M.Inst.C.E., Assistant Engineer-in-Chief, General Post Office.
 Mr. W. P. Goulding, F.R.G.S., F.S.I.
 Dr. Oliver Lodge, F.R.S. (Birmingham University).
 Mr. W. N. Shaw, F.R.S. (Royal Meteorological Society).
 Mr. H. Heathcote Statham [*F.*].
 Mr. A. R. Stenning [*F.*], F.S.I.
 Mr. Arthur Vernon, F.S.I.
 Mr. Killingworth Hedges, M.Inst.C.E., *Hon. Secretary*.

In pursuance of their inquiry the Committee seek the co-operation of competent observers in all parts of the country, with a view to obtaining accurate details, noted on the spot, of the effect of lightning-strokes on buildings, whether fitted with conductors or not. The Committee have held three meetings, and a Schedule of Questions is in preparation and will shortly be issued. Persons willing to act as observers will be requested to investigate any disaster from lightning occurring to a building in their neighbourhood, and to furnish the Committee with the details suggested in the Questions. Should the Committee desire additional particulars, such as measurements, &c., the observers will be requested to make further investigations, and any reasonable expenses will be defrayed by the Committee.

The following is the kind of information required:—Description and situation of building struck, height above sea-level, position with regard to other buildings and high trees, and propinquity to wells; whether rain was falling at the time—if not, whether rain preceded or followed the stroke, and at what interval; as to the number of lightning-rods on the building, giving position, height above roof, material (both of rod and staples), shape, sectional area, how finished at top and at bottom, condition after flash, &c.; whether conductor was continuous; particulars of earth-connection; when conductor was last examined and tested; nature of soil; the precise nature of the injury to the building; if any portion was set on fire; damage to metal-work, such as bells, rain-water and other pipes, electric bells or telephones; distance from conductor of portion of building affected; materials of roof-coverings, and position of gutters and down-pipes; whether conductor was in contact with any other metal; particulars as to metal-cresting, weather-cocks, finials, or flag-staffs on the building, stating distance from and height above conductor; if

conductor was struck, whether damaged portions can be obtained for examination, &c.

Members and others willing to assist the Committee by their observations are requested to communicate with the Secretary to the Committee at the offices of the Institute.

Architects' Benevolent Society.

The Annual General Meeting of the Architects' Benevolent Society was held in the Rooms of the Institute on the 18th March. On the motion of the President (Mr. Wm. Emerson), the Report of the Council was adopted as follows:—

The Council of the Architects' Benevolent Society, in making their Report to the contributors for the year of office 1900–1901, have the satisfaction to state that notwithstanding the many calls upon private benevolence during the period under review, the income has not only been maintained, but increased. Although the Society has suffered severely during the last few years by the death of many of its oldest and most generous supporters, its income, through the careful management of successive Councils, has not been permitted to diminish; but, on the other hand, the financial progress has scarcely kept pace with the demands on the charity of the Society. Last year it was thought that the Society's growing needs might be met by the generous response which an explanation of its aims and position would receive at a public dinner; but, in view of the state of public affairs at the time, the project was deferred to a more favourable opportunity. Still, as a special effort was necessary to enable the Council to carry on their philanthropic work without rejecting the claims of deserving applicants for relief, the President, with the Honorary Secretary, undertook to issue a letter of appeal to members of the profession in the United Kingdom and Ireland, and such a letter was sent out in June last. In view of the large number—some five thousand architects—to whom the appeal was made, the result was scarcely as favourable as might have been anticipated, but it was successful in so far that it enabled the Council to afford a larger measure of practical help where it was urgently needed than would otherwise have been possible. The names of those who responded to the appeal, with the amount of the contributions, were published in the *JOURNAL* of the Royal Institute of British Architects of the 10th of November, the amount received, or promised, in new annual subscriptions being £98 9s. 6d., and in donations £151 17s. 0d., while the total cost of issuing the appeal was £38 8s. 8d.

In connection with the appeal the Council wish to express their cordial appreciation of the efforts of Mr. E. Monson, who successfully exercised his influence in securing additional subscriptions and donations.

Suggestions have from time to time been received by the Council to the effect that the Society would be more liberally supported if its existence and objects were more widely known; but the Council fear that any further promulgation of the Society's aims than is at present attempted would place it under a burden of expense without a prospect of adequate return. The Council would remind subscribers that the Red Book has been issued annually for many years, not only to members of the Society, but to members of the Royal Institute of British Architects; that a considerable sum is spent yearly in advertising, and that advantage is taken of the hospitality of the columns of the JOURNAL of the Royal Institute to give publicity to the Society's proceedings. In addition to the currency thus given to the Society's affairs, the Council last year incurred the expense of the letter of appeal addressed to every practising architect in the three kingdoms. With these facts in view, it is felt that the lack of support accorded to the Society by the general body of the architectural profession must be attributed to other causes than absence of knowledge of its existence.

The Council, at the suggestion of a subscriber, have had also under consideration the desirability of issuing voting papers to members of the Society, and have arrived at the decision that such a system, instead of advancing the objects of the Society, would be a contravention of By-law 68, which states "that the names of persons relieved by the Society shall not be published." The Council feel that as the Society exists to assist members of a profession, or those dependent on them, privacy forms an essential part of its scheme of benevolence, and that the publicity which a system of voting entails would prevent many of those whom it is most desired to reach from seeking the help of the Society. The Council would, further, remind members that they have the privilege of nominating applicants for relief according to the amount of their subscription.

With reference to the Society's Income Account, the Council desire to draw attention to the fact that notwithstanding the amount received in subscriptions for the year was £522 0s. 6d., as compared with £469 8s. 0d. received in 1899, there was a balance at the debit of the account on the 31st December of £42 11s. 11d. It is the first time in the history of the Society that such a deficiency has occurred, and it is due to the large number of urgent applications for assistance which were considered and relieved. This bears eloquent testimony to the great need of the Society for further support. It is hoped that the deficit may be promptly covered by the acquisition of a sufficient number of new annual subscribers.

The number of applications for relief has been

greater than in any previous year, being fifty-five, as compared with forty in 1899. The sum thus distributed was £677 18s. 0d., while £112 10s. 0d. was paid to pensioners, making the total sum expended in relief £790 8s. 0d.

Two of the Society's pensioners having died during the year, their places were filled by eligible and deserving applicants.

The Council have to record, with great regret, the decease of two distinguished architects who acted as trustees for the Society—Mr. Charles Barry and Mr. Henry Currey. Both gentlemen had taken a lifelong interest in the Society, were frequently elected members of the Council, and were always helpful in promoting its usefulness. Other and more recent losses were Mr. H. C. Boyes, a member of the Council at the time of his decease, and Mr. D. P. Fordham.

Mr. William Emerson, President of the Royal Institute of British Architects, and Mr. Arthur Cates have been nominated by the Council for election as trustees, to fill the vacancies caused by the death of Mr. Barry and Mr. Currey.

The following gentlemen, being the five senior members, retire by rotation from the Council: Mr. R. St. A. Roumieu, Mr. W. Woodward, Mr. E. B. I'Anson, Mr. E. H. Martineau, and Mr. E. T. Hall. To fill these vacancies and that caused by the death of Mr. Boyes, the Council beg to nominate—Mr. Arthur Green, Mr. E. Monson, Mr. Sydney Smirke, Mr. H. L. Florence, Mr. Graham C. Awdry, and Mr. J. T. Christopher.*

The Balance Sheet and Income Account for the year ended the 31st of December 1900, audited by Mr. J. T. Christopher and Mr. Henry Hall, are submitted.

It remains for the Council to thank the Royal Institute of British Architects for office and other accommodation, and its officials for help and courtesy in any matter connected with the Society.

REVIEWS.

EXAMPLES FROM PIRANESI.

Roman Architecture, Sculpture, and Ornament: Selected Examples from Piranesi's Monumental Work. Published in Rome 1761. Reproduced from the Originals in Facsimile. Edited by William Young, F.R.I.B.A. Comprising 200 plates. Imperial folio, Lond. 1901. Price £5. 5s. net. [E. and F. N. Spon, Limited, 125 Strand.]

This work is a reproduction by lithography, in one volume, of selected examples from the splendid engravings in Piranesi's great work, a copy of the original edition of which, in some sixteen or eighteen volumes, is in the Library of the Institute. A somewhat saddened interest attaches to it as

* These gentlemen were duly elected at the Annual General Meeting.

the latest work on which its editor was engaged, he having seen the proofs through the press but a short time before his death, and in the preface we have his last words on the architectural tendencies of the day. To him these presented themselves during the last fifteen years in a return to Classic forms, and in making his selection of examples for this work he seems to have ever had in mind what would be most useful and interesting to the student rather than to the archæologist—that which sets forth the proportions, the grouping, and the detail of the Roman buildings, both of the Classic and Renaissance times. Nearly one half of the book is devoted to details, many of them drawn to scale; and as lessons in design on a grand scale several of Piranesi's own architectural compositions are included. The simplicity and dignity and the powerful drawing of these designs are very remarkable, and worthy also of study as lessons in perspective.

Of the larger and better-known Roman buildings illustrated in the original work a fair selection is given, though we miss many notable examples. The plates relating to the Pantheon, both the general drawings and the details, are very fully given—thirteen in all—including the fine interior view, but without the wonderful view across the Portico. Of the Colosseum only one plate is given, while there is none at all relating to the Theatre of Marcellus: this is the more to be regretted as those of this building in the original work are full of interest. The same remark applies to the omission of the splendid illustration of the Arch of Constantine; indeed, it is in this way the difficulty of making the best selection is brought home to us. To choose from the many splendid plates of Piranesi must have been no light task, and, with the objects the editor evidently had in view, one must admit it has been very well done.

Of special interest are the views of the old Basilica of St. Paul outside the walls, since destroyed by fire, and recently rebuilt on the old lines. In like manner also the view of the bridge and castle of St. Angelo (the mausoleum of Hadrian) shows the old surroundings of the Tiber, now all cleared away to make room for the new embankment of the river. Indeed, some of these illustrations serve to remind us how Rome has been altered almost beyond recognition in many localities, and are therefore valuable from an archæological point of view, the environment of almost all of the buildings having been entirely changed since Piranesi's time.

The reproduction reflects great credit on the publishers: the general get-up of the book in paper, binding, &c., is excellent; the lithographs, though of course wanting in the vigour of the original engravings, are clear and carefully rendered; but as the original work is now rare, and its value something like £100, this

volume cannot fail to prove an instructive and acceptable book, on a subject of never-dying interest, more especially, as its editor remarks, when at present there seems to be a disposition among architects to revert to more strictly classical forms. If this should lead to a more intimate study of the principles which govern the proportions, and the knowledge that dictated the details of these historic monuments, the present republication will not have been undertaken in vain. On the contrary, it has brought its treasures within the reach of many to whom the original work is almost, if not altogether, inaccessible.

J. M. BRYDON.

MINUTES. X.

At the Tenth General Meeting (Business) of the Session 1900-1901, held Monday, 1st April 1901, at 8 p.m., Mr. Edw. A. Gruning, *Vice-President*, in the Chair, with 12 Fellows (including 8 members of the Council), 10 Associates (including 1 member of the Council), and visitors, the Minutes of the Meeting held 18th March [p. 245] were taken as read and signed as correct.

The Hon. Secretary announced the decease of Frederick Boreham, *Associate*, elected 1871.

The following candidates for membership were elected by show of hands under By-law 9, viz.:—

ROBERT STEPHEN AYLING [A. 1892, *Godwin Bursar* 1897] as *Fellow*.

NORMAN THORP [*Probationer* 1896, *Student* 1898, *Qualified* 1900], as *Associate*.

The following applicants for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, and admitted by them to candidature, were recommended for election, viz.:—As *FELLOWS*: Hippolyte Jean Blanc, R.S.A., F.S.A.Scot.; Charles Fitzroy Doll; Edmund Harold Sedding; As *ASSOCIATE*: Robert Douglas Wells, B.A.Cantab. [*Probationer* 1898, *Student* 1898, *Qualified* 1900].

The Chairman having announced the failure of the negotiations between the Council and the Institute of Builders in regard to the proposals for uniform Conditions of Contract, invited discussion on the amendments in the Institute Form resulting from the negotiations, with a view to the adoption of such as seemed desirable for the revised Form which the Council would lay before members at a subsequent meeting.

The Meeting agreed to the adoption of the amended Clauses 1, 12, 20, 21, 28, 29 as printed on the notice-paper [and now printed in the report of the meeting, p. 263], and made a further amendment to Clause 17 [p. 263].

The amended Clause 32 the Meeting rejected in its entirety, and resolved that the original clause be retained, with the addition of clause 16 among the clauses exempted from the operation of the arbitration clause [p. 264].

Mr. Pryce Cuxson [F.] having called attention to an ambiguity in Clause 13, an amendment to meet the objection was agreed to, on the motion of Mr. John Slater [F.], seconded by Mr. Edwin T. Hall [F.] [p. 264].

The Chairman having given notice of a Special General Meeting to be held on 15th April to consider the Council's recommendation that Mr. Emerson be requested to allow himself to be nominated as President for the ensuing year, and that By-law 26 be suspended, the proceedings closed, and the Meeting separated at 9.15 p.m.

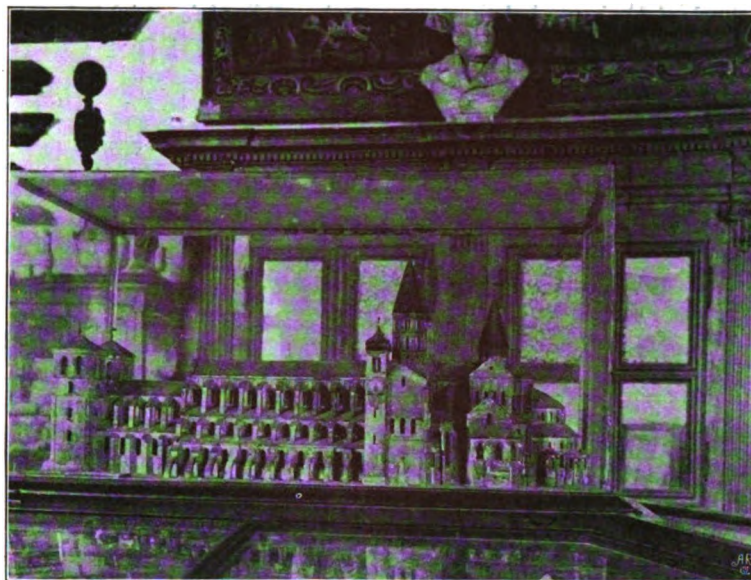


Fig. 1.—Model of Abbey Church in glass case, Cluny Museum.

CLASSIFICATION OF ROMANESQUE ARCHITECTURE.

By FRANCIS BOND, M.A. [H.A.]

Read before the Royal Institute of British Architects, Monday, 22nd April 1901.

INTRODUCTION.

TO one whose horizon has hitherto been bounded by the Romanesque of Ely and Gloucester, Durham and Winchester, his first impressions of Continental Romanesque are, to say the least, somewhat bewildering. In Normandy, indeed, he feels himself on familiar ground. In the Abbaye-aux-hommes, the Abbaye-aux-dames, at Jumièges, and St. George de Boscherville, there is nothing in the planning, the construction, the ornamentation, that is strikingly dissimilar to the eleventh- and twelfth-century work of his own country. But step outside of Normandy, and all is changed. Churches vast in scale, of monumental solidity and stability, overwhelmingly solemn and impressive, confront him; but churches of shape and form hitherto undreamt of, differing from anything that he has ever seen, differing quite as completely from one another. Durham has not prepared him for Notre-Dame, Poitiers; Notre-Dame, Poitiers, is even more unlike Saint-Hilaire, Poitiers, than it is unlike Durham. Neither Notre-Dame nor Saint-Hilaire, Poitiers, prepares him for Loches; nor Loches for Issoire; nor Issoire for Tournus; nor Tournus for Le Puy; nor Le Puy for Autun; nor Autun for Saint-Front or Angoulême. It seems a perfect welter of styles; a maze without a plan. The English student begins to see that he has been living, after all, in only a little corner—the poorest, barest corner—of the great Romanesque world: he realises, perhaps for the first time, that there is not one, but many Romanesques, and that his own little variant of Romanesque was, in some respects, the least important of them all. That there is, that there can be, any unity in all the variants is at first and for long inconceivable. The first lesson—and it is a good one to have learnt—is of the marvellous diversity of Romanesque; that there is a unity in this diversity is a lesson to be postponed till later.

I have tried to depict above, briefly, some of the difficulties which beset the student on his first introduction to that great style which preceded Gothic and was based on Roman work. They are difficulties which I felt profoundly myself on my first visits to the Romanesque churches of the Continent. It is to make things a little easier for beginners like myself that I have attempted in this Paper to deal shortly with the thorny question of the Classification of the Romanesque Styles. To make an exhaustive and scientific synthesis covering the whole field would require a volume.

CLASSIFICATIONS.

At the beginning of one's first studies of Romanesque one naturally asks whether classifications of its variants do not already exist. They do exist. One of the chief pioneers of mediæval ecclesiology, De Caumont, long ago, in his *Architecture religieuse*,* grouped the Romanesque buildings of France geographically. Unfortunately, he selected ornament as his chief criterion of style; and nothing is more unreliable or more misleading than ornament. For his disregard of such essentials as construction and vaulting his whole system was attacked, and to a large extent discredited, by Quicherat; his critique will be found in the second volume of his collected works. For judgments based on the carving of a capital,† or the profile of a moulding, Quicherat substitutes a system based on the vaulting of the nave—an enormous improvement. The mistake is to erect this into the position of leading and almost sole criterion. A wider basis of classification than this is necessary. A vault cannot be built without abutment; yet Quicherat declines altogether to take into account the vaulting of the aisles.‡ Nor ought one to leave out of account the vaulting of the crossing; or the system of top-lighting of the nave; or the tower system; above all, the planning, especially of the eastern limb. It is on a synthesis of these elements, among others, that a true scientific classification must be based.

Nor is much assistance to be gained from Viollet-le-Duc. In the article *Église* in the great *Dictionnaire* he sketches out seven Romanesque schools: those of France proper, Champagne, Burgundy, Auvergne, Poitou, Périgieux, Normandy. But in his report on the *Musée de sculpture comparée*, published in the *Journal Officiel* for 30th June 1879, he adds the schools of Provence, Languedoc, Saintonge, and Picardy. To these Anthyme Saint-Paul, in his critique on Viollet-le-Duc,§ insists on adding three or four more; in particular, an additional school of Limoges, which he has taken specially under his wing, and which certainly has claims to special recognition, if only for the great predominance of the square chevet over the apse in this district—that of the departments of Haute-Vienne, Creuze, Corrèze, and Lot.

To this subject of classification great attention has been given by Anthyme Saint-Paul. A full discussion of the subject will be found in his *A travers les monuments historiques de la France*. His results, as regards France, are summarised by him in his *Histoire monumentale de la France* || as follows:—

- | | | |
|----|---|---|
| I. | { | 1. <i>Rhenish</i> : e.g. Andernach, Rosheim.
2. <i>Provence</i> : e.g. Arles, Saint-Gilles.
3. <i>Burgundy</i> : e.g. Cluny, Paray-le-Monial, Autun.
4. <i>Nevers</i> : e.g. La Charité-sur-Loire. |
|----|---|---|

* P. 138, 5th edition.

† Enlart, *Notes sur les sculptures exécutées après la pose*, in the *Mémoires de la Société des Antiquaires de France*, 1894.

‡ Brutails, *L'Archéologie du Moyen-Age*, p. 166.

§ P. 154, 2nd edition.

|| P. 111.

- II. { 5. *Auvergne*: e.g. Notre-Dame du Port, Clermont; Issoire.
6. *Toulouse*: e.g. Saint-Sernin and Conques.
7. *Limoges*: e.g. Souillac and Beaulieu.
8. *Bourbonnais*: e.g. Souvigny and Saint-Menoux.
- III. { 9. *Périgueux*: e.g. Angoulême, Fontevrault, Souillac.
10. *Charente*: e.g. Saint-Croix, Bordeaux, and Angoulême.
- IV. { 11. *Poitou*: e.g. Poitiers; Notre-Dame, Saint-Hilaire, Montierneuf.
12. *Saintonge*: e.g. Saintes.
- V. { 13. *Loire*: from Saint-Martin, Tours, to Saint-Benoît-sur-Loire.
14. *France proper*: e.g. from Saint-Remi, Reims, to Saint-Germain-des Prés, Paris.
- VI. 15. *Normandy*: e.g. Caen.

On this classification a few remarks may be permitted. First, no distinction is made between pure styles and mixed styles. Yet that many of the examples given belong to more than one school is plain from the fact that Souillac, which is described as of the school of Limoges, has also to be characterised, by virtue of its domical system, as Périgordian. So Angoulême belongs both to the school of Périgueux and to that of the Charente. And what is true of individual churches is true of whole districts. The schools of Nevers and the Bourbonnais are confessedly but a blend of those of Burgundy and Auvergne. As for the type-church of the school of Nevers, La Charité, that was originally quite exceptional in plan. So also the school of Limoges is a mixture of those of Auvergne, Poitou, and Toulouse. So with others. Cut out the mixed schools, and Saint-Paul's list of fifteen styles may be greatly abbreviated. Secondly, the classification brings together things essentially different and separates things essentially similar. Saint-Hilaire, Poitiers, is about as similar to Notre-Dame-la-Grande as Macedon to Monmouth; on the other hand, it has striking points of resemblance to the cathedral of Le Puy; but the classification excludes it from the school of Auvergne, or rather that of Provence,* and inserts it in the school of Poitiers. Thirdly, there are certain buildings—buildings, moreover, of striking scale and importance—which will not fit into any of the above classes. There is the cathedral of Le Puy, which Saint-Paul admits is *d'une forte originalité*; there is Loches, there is Tournus. Fourthly, it seems not to recognise fully the existence of "outliers" or "exotics." Just as when a church was wanted for the English "colony" in Copenhagen, Mr. Street was commissioned to design it in the English Gothic; so when Saint-Hilaire, Poitiers, was built, the monks built it in the style of the mother church of the country from which they came. This was the case to a still greater extent in the twelfth century, when many a plan and construction is not of local origin at all, but imported by Cistercian monks—e.g. the tunnel-vaults of the aisle and the narthex of Fountains are not English, though they happen to be in England.

THE ROMANESQUE PROBLEM.

I am afraid, then, that the four classifications, as above, lead us but little forward. It remains to consider whether a wider basis of classification cannot be found; one resting on the main facts of plan and structure.

But first of all we may ask what was the one thing that all these builders—whatever the schools they belonged to—were trying to do. I think that, with the exception of a certain

* "In his accurate researches in *Les Arts en Poitou*, M. Berthelé has explained very happily, by the filiation of certain monasteries in Poitou, the Auvergne, Limoges, and

Champagne arrangements of their churches."—Brutails, *op. cit.* p. 31.

number of them who were attempting to solve the church-building problem by following such types as S. Stefano Rotondo at Rome or S. Vitale at Ravenna, and whose furthest outposts, with the exception of the churches of the Knights Templars and the Knights Hospitallers, are to be found in the churches of Aix-la-Chapelle, Ottmarsheim, and Germigny-des-Prés, all the builders of Western Europe, from the ninth century, when Romanesque architecture commences, to the twelfth century, when it is superseded by Gothic, were engrossed with one supreme problem, and that was—How to vault a basilica. This was the one problem of problems for some three hundred years; the master-problem of the builders of the Middle Ages, from the end of the ninth to the middle of the twelfth century. The amount of real engineering skill, the ingenuity, and the variety of the solutions proposed are simply astonishing. They seem to me never to have had their full due. Gothic architecture gets nearly all the credit. As a matter of fact, every single one of the main difficulties inherent in the task had been effectually met—and met in more than one way—before the first Gothic architect ever handled a trowel. Early in the twelfth century, or before, at least five complete solutions had been arrived at: as may be seen at Le Puy, Tournus, Cluny, Speyer, and Durham. Many other solutions, less complete but still full of interest, remain for our study.

VAULTING OF NAVES.

As we have said, the problem was—How to vault a basilica. That is much in a few words. It means (1) that there are to be aisles, as well as a high nave; (2) that some form of vault-construction is to be devised; (3) that since a vault of stone is heavy, piers must be substituted for graceful, but weak, classical columns; (4) that the thrusts of the high vault of the nave must be stopped in some way by abutment in or above the aisles; (5) that top-lighting by clerestory windows is to be retained; (6) that the outer surface of the vault must be protected from the weather.

I. In most cases one or more of these conditions was evaded. One school, the most ancient of all, which held the whole of the field till the ninth century, simplified the problem by omitting the vault and retaining the colonnade. This produced a grand series of Romanesque basilicas, from the classical basilicas of early date, such as the eighth-century church of S. Sauveur at Brescia,* right on to churches more and more Romanesque in general aspect, some built as late as the thirteenth century, such as Torcello; St. Miniato, Florence; Monreale, Sicily; Pisa, Lucca, Salerno, and Genoa; S. Abbondio, Como†; Constance and Schaffhausen; the Hildesheim churches‡; Saint-Genou,§ Berry; St. Peter's, Northampton. But to omit the vault was to omit the one crucial difficulty; and this unworthy solution we may set aside.

II. A second solution—also very incomplete—was to omit the aisles: to build a hall-church roofed with a tunnel-vault. This simplified the question of supports; for it substituted solid walls for hollow arches, any amount of clerestory light could be introduced, and the walls could be thickened to any extent to provide continuous abutment to the thrust of the great tunnel-vault. Everywhere it was the natural and proper solution where only a small church was required, but it was employed in Provence even in churches of cathedral rank. Examples of the Romanesque hall-church may be seen at St. Honorat-de-Lérins,|| Cavailon,¶ Orange. About 1140 it culminated in the grand cathedral of Saint-Maurice, Angers, with

* Plan in Cattaneo's *Architecture in Italy*, Figs. 61-68.

† Dehio und von Bezold, *Die kirchliche Baukunst des Abendlandes*. Plates 66 and 74.

‡ *Architectural Record*, New York, vol. ii. 1.

§ Corroyer's *Architecture romane*, p. 179.

|| *Ibid.*, p. 170.

¶ Revoil. *Architecture romane du Midi de la France*.

II. Plan 25.

Gothic vaulting. In the south it was translated into Gothic in the cathedrals of Bordeaux, Béziers, Carcassonne, Albi, and Gerona, and the once splendid church of the Cordeliers at Toulouse. But this incomplete solution also we may set aside; to leave out the aisles was to omit a primary condition of the problem. In some cases the church was vaulted with a groined or ribbed vault. This also we may disregard.

III. A third method, represented by the school of Périgueux, also removes the difficulties of supports, abutment, and top-lighting by eliminating the aisles. It presents us with another variety of hall-church; roofed, not with a tunnel, but a row of domes; and it is to be noted that the corners of each square bay of the nave are filled in with pendentives to support the domes. The earliest churches of this type probably possessed neither aisles nor transepts; *e.g.* Saint-Étienne, Périgueux, dedicated 1047, and Cahors, dedicated 1119. Later on, naves of churches in the form of a Latin cross, such as Fontevrault and Angoulême, were also roofed with domes. (The westernmost bay of Angoulême, which is ruder than the rest, appears to belong to a church completed in 1017.)* The style culminates in Saint-Front, Périgueux, in which the form of the Greek cross is adopted. The accuracy of the masonry of the domes and pendentives of Saint-Front proves that it was one of the last of the type built; it was probably commenced after the fire of 1120.†



FIG. 2.—SAINT-FRONT.

IV. The next method is quite exceptional. It is found only in the extraordinary church of Loches, near Tours. Originally there was a low tunnel-vaulted nave, without aisles, of the eleventh century. But about 1160 the eastern portions of the nave were pulled down; two square bays were formed; and on these bays two spires were erected. Loches is just Saint-Hilaire, Poitiers, roofed with spires instead of domes. As at Saint-Hilaire, the side-wall of each bay is pierced with a pair of windows, and the angles of the spires are supported by squinches.‡

We may now turn to those groups of churches in which aisles are retained.

V. In two churches of the first rank a row of domes was employed to roof an aisled nave. An earlier use of the dome was to roof the crossing; but the Romanesque builders also employed it, with remarkable boldness, to roof a nave of several bays. The nave, as in the Syrian churches, was spanned by a series of strong arches. These were so placed as to divide the nave into square compartments. On each square an octagonal dome was poised, the corners of the square being filled up with corbelling or squinches to afford support all

* Barr Ferree, *French Cathedrals*. Part XVI.

† R. Phené Spiers in *JOURNAL OF THE R.I.B.A.*, Vol. III. 3rd series, p. 233.

‡ For drawing of exterior by A. H. Haig, see *Architect*, February 1, 1879. Section in Choisy, *Histoire*, II., 201. Plan in Dehio, *op. cit.*, Plate 102, and section in Plate 110.

round to the base of the dome. The typical example of this is the wonderful cathedral of Le Puy,* the nave of which is roofed by a row of six domes on squinches. Clerestory windows are provided beneath each dome. There is a groined aisle on either side, except in the westernmost bays, which have heavy roll-ribs.



FIG. 3.—LE PUY. NORTH SIDE OF WEST BAYS OF NAVE.

All the six domes are sheltered by a timber roof, and are therefore not visible from outside. Thus the great mediæval problem is solved completely in a most original and surprising fashion. The other great type is the church of Saint-Hilaire, Poitiers, which has recently been to a large extent rebuilt. It differs from Le Puy in three ways. First, the squinches of the domes are small, and the square is converted into an octagon with four long and four short sides; this shape of the octagon is faithfully reflected in the dome above. Secondly, it has two aisles on either side of the nave; the inner aisle very narrow and very lofty, the outer aisle low and broad; the same disposition of the aisles is to be seen in the Romanesque nave of the Cluniac church of Souvigny, near Nevers. The inner aisle of Saint-Hilaire is two stories high, in this respect resembling Saint-Sernin, Toulouse, not Souvigny. Thirdly, by attenuating the squinches, room is found for two clerestory windows in each bay instead of the one of Le Puy. The domes, as at Le Puy, are hidden by a timber roof.

VI. At Arles and Nimes, and no doubt here and there elsewhere throughout the broad

extent of the Roman Empire, a curious method, which we may call "arch and panel," was adopted. The *rationale* of it, as of almost all Roman and Byzantine methods of construction, was the desire to economise centering. Instead of building a tunnel-vault on elaborate and expensive centering, the Romans sometimes built a narrow arch on a centre; and then, removing that centre and re-using it, built another arch a little distant from the first and parallel to it. Then the arch was built up till horizontal; and the space from the wall carried by one arch to the wall carried by the next arch was bridged over by flat panels. In this way, using but one narrow centre, a tunnel of any length, carrying a flat stone ceiling, could be constructed with a minimum cost in centering.† Now it happens that in many districts of Northern and Central Syria blocks of basalt of ten feet or more in length are common. The same method as above was adopted, except that long basaltic lintels were employed, and not panels. We may distinguish it as the "arch and lintel" system. Strong transverse arches were built across the nave, about nine feet apart; a wall was built on each arch rising up to the apex of the arch; and then the lintels of basalt were laid longitudinally—i.e. from west to east. The transverse arches, however, had considerable thrust; this was provided against by a

* See *L'architecture religieuse à l'époque romane*, par Thiollier; Le Puy.

† Choisy, *L'art de bâtir chez les Romains*, Plate 16.

buttress held in place, as in a vice, by a tunnel on its eastern and another on its western side. For still greater security,* another row of tunnels, also set transversely, was built on the top of the lower row, on each side of the nave. In fact it was the Roman system of internal buttressing as practised in the Basilica of Maxentius, except that in the Syrian examples there is an upper as well as a lower aisle, ceiled in stone. The walls are merely screens. Both the upper and the lower aisle walls might be pierced with windows, as at Peterborough; but the side-light thus obtained would not be very effective; and probably in the bright climate of Syria sufficient light was obtained from windows in the apse and the west front. The flat ceilings of the nave and the upper aisles were built up into terraces of slight slope, providing a roof wholly fireproof. Count de Vogüé has fully illustrated this curious phase of architectural history in *La Syrie centrale*. The whole district has been deserted since the first Mahommedan raids in the seventh century. Tafka and Chagga are typical examples. There is no clerestory lighting.

VII. We now come to a whole series of attempts to solve the problem by covering an aisled nave with what is called a tunnel, wagon, barrel, or cradle-vault. Of these by far the most scientific is that of Tournus abbey-church. Being so scientific and successful, it is all the more extraordinary that, so far as I know, it was nowhere imitated. As in the churches of Syria, the nave was spanned by stout arches, each arch carrying a wall. But each pair of these walls, instead of carrying lintels, as in Syria, carries a short tunnel set transversely. The construction is that of many a railway viaduct of brick, if its supports are not solid walls, but consist of two piers carrying an arch. Stand underneath such a viaduct, and look from one end of it along its under surface, and you get just such a vista as that in the nave of Tournus.

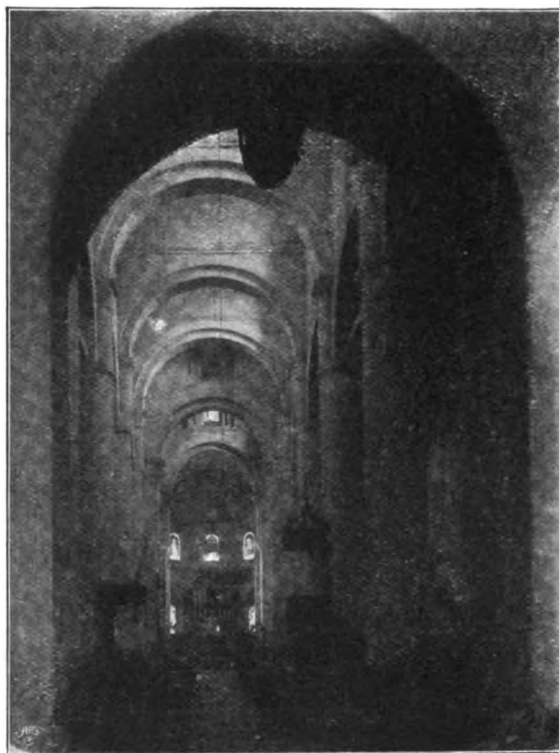


FIG. 4.—TOURNUS, NAVE FROM NARTHEX.

The supreme merit of the solution is that the thrusts of the tunnels balance one another; as they run, not to north or south, but to east and west, just as they do in the arches of any bridge or viaduct. The only exception is the extreme arch at each end. At Tournus the thrust of the westernmost arch is stopped by a heavy western wall; the thrust of the most eastern arch is neutralised by building a heavy central tower. The lateral thrusts of the transverse arches are but slight. At Tournus, however, abutment is provided against these also by carrying the aisles up to an exceptional height. The aisles are groined. Inside each tunnel, on either side, a clerestory window is placed. A timber roof shelters the row of five tunnels. All the conditions of the problem are satisfied at Tournus nave so early as the first half of the eleventh century.†

* Or, perhaps, rather to facilitate the construction of one single roof for nave and aisles.

† For plan and sections see *Archives des monuments historiques*: iii., 8 and 9. A consecration took place

in 1019; but this may have been of the choir, which seems to me to have been rebuilt and provided with ambulatory and chevet in the twelfth century.

VIII. Tournus is quite exceptional. We now come to the vast number of churches in which the tunnel-vault of the nave was placed longitudinally—*i.e.* in the direction of the axis of the church. The difficulty is to know how to classify churches so varied in design. Quicherat took as his "*fundamentum divisionis*" the form of the tunnel, whether semicircular or pointed. But as M. Brutails* points out, in the Cathedral of Elne the central bays have a semicircular, the western bays a pointed tunnel. According to Quicherat's classification, the two sets of bays would not fall into one class; but one would be sorted off with Saint-Sernin, Toulouse, the other with Saint-Trophime, Arles. Moreover, in Provence the pointed tunnel is the normal, and the semicircular the abnormal type of tunnel.† Other criteria suggest



FIG. 5.—NOTRE-DAME, POITIERS.

themselves—*e.g.* (1) the number of stories in the interior, whether one, two, or three; (2) whether there is a single vaulted aisle or an upper and lower vaulted aisle; (3) the presence of a clerestory; (4) the system of abutment in the aisles; (5) the thickness and heaviness, or the thinness and lightness, of the tunnel itself; (6) the system of external roofing, which is connected with the last-mentioned. For, if the tunnel be a thin shell, it must be covered with a timber roof; if it be thick and strong, the whole roof, externally and internally, may be solid stone. Of these criteria the second and third seem to me to be the most important. We will therefore divide the naves vaulted with longitudinal tunnels into those:

- (a) Where the tunnel rests on a pier-arcade;
- (b) Where the tunnel rests on the arches of an upper vaulted aisle;
- (c) Where the tunnel rests on a wall pierced with clerestory windows.

The great danger in the employment of the longitudinal tunnel, especially where, as in Provence, it was thick and heavy and served also as external roof, was its strong lateral thrust. That could be dealt with most easily by causing the tunnel to spring from as low a level as possible. Therefore, although it involved the sacrifice of clerestory lighting, the tunnel was set directly on the pier-arches, with the result that the church was gloomy in the extreme. Saint-Martin d'Ainay‡ at Lyons is an early example—early eleventh century. Here, as at Saint-Savin§ in the department of the Vienne, founded in 1023, the supports consist still of classical columns, the weakness of which makes it all the more necessary to keep the church low. This method of construction is particularly common in Poitou, and is seen in a highly enriched form in Notre-Dame, Poitiers.¶ But it is also the method employed in many of the larger

* *L'Archéologie du Moyen-Age*, p. 172.

† Mérimée, *Notes d'un voyage dans le Midi de la France*.

‡ Dehio, *op. cit.*, plans and sections, 117, 122, 125.

§ *Architectural Review*, ii. 9, 99.

¶ *Archives des monuments historiques*, ii. Plates 7 and 8.

churches in Provence; it occurs sporadically all over France as far north as Saint-Loup-de-Naud,* near Provins; a good example is seen in the Swiss church of Granson,† and there are many in Spain. But because it is especially common in Poitou and the neighbourhood we may distinguish it as the Poitevin method. One universal characteristic of churches of this type is the great height of the aisle proportionately to that of the nave. We may incline to find scientific reason for this in the abutment provided in the aisle, which would have been less effective if the aisle were low. But perhaps it is not wise to attribute too much science to the tenth- and eleventh-century builders who originated this type of church. Advantages of a more practical character weighed with them. In the first place, a lofty aisle left plenty of space for aisle windows, which in times of insecurity ‡ it was desirable to have high up in the wall. Secondly, if the aisles were nearly as high as the nave, one external roof, instead of three roofs, would cover the whole building; this would be particularly convenient where, as in Provence, there was no external roof of wood.

The mode of abutment varies. Sometimes both aisles and nave have longitudinal tunnels. Those at Saint-Nazaire, Carcassonne,§ are semicircular (though the nave has a pointed tunnel). Sometimes, as at Melle, the aisle tunnel is pointed. We may, if we choose, credit the builders with utilising the principle of Opposing Thrusts; the aisle-tunnels being raised high so that their inward thrust may neutralise to some extent the outward thrust of the nave tunnel. Other examples of aisle-tunnels are Saint-Martin d'Ainay,|| Lyons, and Saint-Honorat-des-Lérins,¶ both probably of early eleventh-century date.

Sometimes, but very rarely, the system employed in the aisles of the Basilica of Maxentius was adopted. The aisle was roofed with a row of short tunnels set transversely. Hauterive,** in Savoy, is an example. So massive and effective is the system of abutment secured by a row of transverse tunnels that it is surprising that it was adopted so very seldom.

Sometimes the principle of Transmission of Thrusts is utilised by the employment of a demi-berceau, which is really a continuous flying buttress. Examples are to be seen at Fontefroide,†† a Cistercian church built towards the middle of the twelfth century; at Granson ‡‡ in Switzerland, eleventh century; at Vieux-Parthenay §§ and Silvacanne,||| twelfth century.

The most common method was to cover the aisles with groined vaulting, as at Saint-Savin, c. 1025, and Notre-Dame, Poitiers, twelfth century.¶¶

IX. Such interiors, however, as that of Notre-Dame de Poitiers were painfully low. It would have been dangerous, however, to raise the tunnel much by increasing the height of the piers. So, in Auvergne especially, the expedient was hit upon of building two aisles instead of one, both vaulted: then the tunnel could spring at a much higher level. Moreover, some of the gloom of the Poitevin type of nave could be dispelled by piercing the back wall of the new upper aisle with windows. Thus light would enter through two tiers of aisle windows, both across the upper and the lower aisle. Perhaps the addition of an upper aisle was first accomplished in Auvergne in the church of Notre-Dame du Port, Clermont,*** which is eleventh-

* Dehio, *op. cit.*, plans and sections, 146, 149, 158.

† Fergusson, *History of Architecture*, ii. Section 691.

‡ Cf. the position of the windows of the pre-Conquest churches of Worth and Wing with those of Notre-Dame, Poitiers, and Saint-Savin.

§ Fergusson, *History*, ii. Section 456.

|| Sections in Dehio, *op. cit.*, iii. Plate 122.

¶ *Ibid.*

** Plan in Dehio, *op. cit.*, Plate 118, and section in Plate 99, and in Choisy's *Histoire*, ii. 214. Compare the trans-

verse tunnels of Orange cathedral, Choisy, *loc. cit.*; of Saint-Remi, Dehio, *op. cit.*, Plate 46; of the lower narthex of Tournus, and the aisles of Fountains nave.

†† Fergusson, *Hist.*, ii. Section 553.

‡‡ *Ibid.*, Section 691.

§§ Dehio, *op. cit.*, Plate 123.

||| *Ibid.*

¶¶ For illustrations of the architecture of Poitou, see Robuchou et Ledain; *Paysages et monuments du Poitou*.

*** Sections in Dehio, *op. cit.*, Plate 130.

century work; and of which Issoire* is an enlarged version. This type appears as far away as Conques,† and Saint-Sernin,‡ Toulouse, and Santiago cathedral, in Spain,§ said to have been commenced in 1078. In none of the above is there any clerestory lighting. In churches of this type the upper aisle seems always to be vaulted with a demi-berceau. This facilitates the construction of a single solid roof to cover nave and aisles alike, as at Issoire. || The nave tunnel and the demi-berceaux are thick and strong because their outer surfaces form the external roof. All the lower aisles that I have seen have groined vaults. The only weak

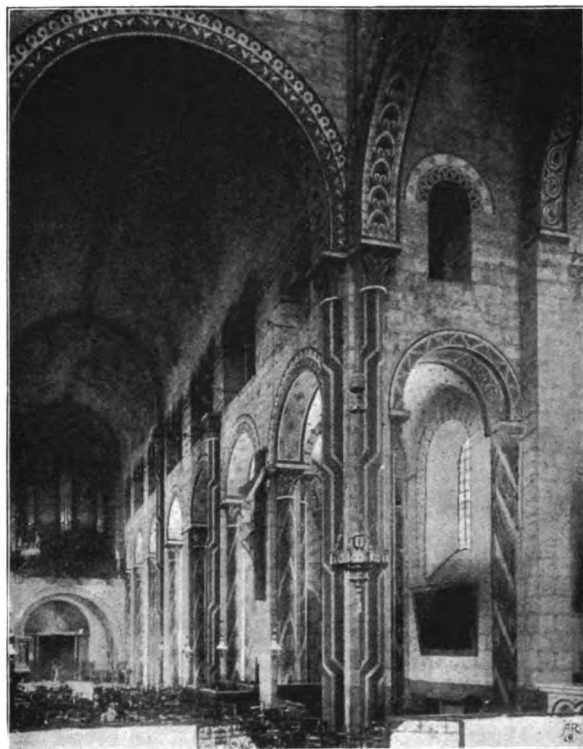


FIG. 6.—ISSOIRE. FROM SOUTH-EAST.

point in such a design as that of the magnificent church of Issoire is the absence of clerestory light.

X. The first step to carry out the one unfulfilled condition in the problem—the provision of clerestory light—was taken by piercing the base of the tunnel itself with clerestory windows. This was done at first in very timid fashion in such examples as Payerne,¶ La Palud and Vaison cathedral**; in all these the openings were small, and, in consequence of the great thickness of the haunches of the tunnel, had to be widely splayed internally. A step in advance is seen at Thil-Châtel,†† between Dijon and Langres, where the tunnel is penetrated by windows of respectable size. A third advance appears at Saint-Benoît-sur-Loire,‡‡ which like Payerne is eleventh-century work, and at Châteauneuf,§§ where the windows are inserted partly in the tunnel, partly in a clerestory wall. The final step was to insert the windows wholly in a clerestory wall. This was a most important change. It seems to have been accomplished independently

in the south, in Provence and Languedoc; in the north, in Burgundy as far west as the Loire. The clerestory was already in use in tunnel-vaulted churches in the eleventh century at Saint-Guilhem-du-Désert, ||| in the Southern Cevennes; and in Burgundy on a small scale at Saint-Benoît-sur-Loire (commenced 1062), and on a gigantic scale at Cluny (commenced 1089).

In Provence, in order to have solid stone roofs, the abutment of the new clerestory wall usually took the form of a demi-berceau, as at Vaison,¶¶ where it is of very primitive character, and at Saint-Trophime,*** Arles. With the adoption of the demi-berceau as the aisle-vault, no triforium arcade was possible; and, consequently, these Provençal interiors are but two stories high. In Burgundy, on the other hand, the aisle-vault seems to have been

* Sections in Dehio, *op. cit.*, Plate 130.

† *Ibid.*

‡ *Ibid.*

§ Perspective in Fergusson's *History*, ii. Fig. 929.

|| Fergusson's *History*; plan and sections, ii. 592, 593, 594.

¶ Dehio, *op. cit.*, Plate 136.

** Dehio, *op. cit.*, Plate 134.

†† *Ibid.*, p. 401.

‡‡ *Ibid.*, Plate 142.

§§ *Ibid.*, Plate 141.

||| Dehio, *op. cit.*, Plate 134, and Revoil, *op. cit.*

¶¶ *Ibid.*

*** *Ibid.*

invariably groined, and this groined vault was protected by a wooden lean-to roof. This rendered possible a triforium; and, consequently, the Burgundy interiors are three stories high.

But such clerestory walls as those of Burgundy, carrying lofty tunnels—the existing transept of Cluny is 110 feet high beneath the tunnel—were exceedingly dangerous. The builders were somewhat timid, therefore, about piercing the clerestory wall. In Autun cathedral, though it is twelfth-century work, only one window is inserted in each bay of the clerestory; at La Charité-sur-Loire and Beaune there are two; Paray-le-Monial* ventured to insert three. Secondly, clerestory buttresses† were added, as at Paray-le-Monial, but they could not have been of much service in resisting the continuous thrust of a tunnel. Later on, in very unscientific fashion, flying buttresses were added to the nave of Autun; and, judging from old prints, to the nave of Cluny also. Thirdly, all these high tunnels were pointed, in order to bring the thrust down more vertically. Fourthly, the vault itself, instead of being thick and heavy, as in the Auvergne churches, became a light shell, sheltered by a wooden roof.‡ Fourthly, the vault itself, instead of being thick and heavy, as in the Auvergne churches, became a light shell, sheltered by a wooden roof.‡ Fifthly, a still more effective and scientific precaution was taken, which, I think, is not usually recognised. If such an exterior as that of Paray-le-Monial§ or La Charité be examined, it will be seen that the windows are placed remarkably low down in the clerestory wall. The fact is, this wall is built many feet up above the spring of the tunnel in order to weight the wall below, which acts both as a support and as an abutment to the tunnel within. The thrust of the tunnel is continuous, and by raising the whole length of the clerestory wall the builders have succeeded in laying a continuous weight on the abutment below. What the Gothic pinnacle does for the buttress, that the raised clerestory wall does for the wall below. The Romanesque is as scientific and as successful as the Gothic application of the principle of weighting in the pinnacle. It was applied as far back as the Pantheon, where the wall which provides support and abutment to the dome is, for precisely the same reason, carried far higher than the springing of the dome.

In such churches, therefore, as Paray-le-Monial and Cluny, of which Paray is a reduced copy, the great mediæval problem was fully solved in magnificent fashion.

All the above churches—like the two-storied churches of Provence and Languedoc, and the three-storied churches of Burgundy—are without an upper aisle. But at Nevers there exists a clerestoried church of the first rank, Saint-Étienne,|| commenced in 1063, and



FIG. 7.—PARAY-LE-MONIAL. FROM SOUTH-EAST.

* *Archives des monuments historiques*, iii. 5 and 7.

† *Ibid.*

‡ Choisy, *Histoire de l'architecture*, ii. 217.

§ *Archives des monuments historiques*, iii. 5 and 7.

|| Dehio, *op. cit.*, Plan and Sections, 119, 130, 131.

consecrated, in part at least, in 1097, which has both upper and lower aisle. Moreover, it has a square western tower in the centre of the façade, and an octagonal tower over the crossing. These two facts point to a connection with Auvergne; the clerestory, to a connection with Burgundy. Plainly it was commenced by the founder, the Comte de Nevers, as a church of the gloomy Auvergne type; but when the Comte presented it to Abbot Hugh of

Cluny it was finished with a Cluniac clerestory. It is a blend of the Romanesque of Burgundy and Auvergne.

This concludes the experiments of the builders with the tunnel form of vault. I have treated them at some length, because to us in England they represent a type of Romanesque which is unfamiliar, and which has not received detailed analysis in English archæological literature. On the other hand, the ground now to be traversed is familiar to all, and I propose to make but a cursory survey of it.

XI. This solution, which was destined, within a generation or two, to culminate in the Gothic architecture of Saint-Denis (1140), consists in covering a nave with unribbed groined vaults (which, for convenience, I have spoken of throughout this Paper as groined vaults). The early date of 1088 is claimed for the groined vault of the choir of Saint-Nicolas, Caen.* Two other early groined vaults, both vast in scale, are those of Speyer cathedral and the Cluniac abbey of Vézelay. Speyer nave† was practically rebuilt after 1080,

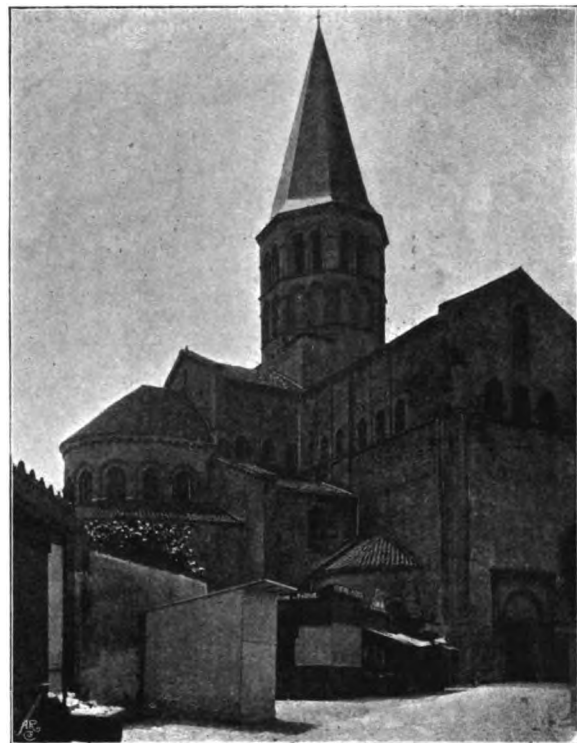


FIG. 8.—PARAY-LE-MONIAL. FROM NORTH-EAST.

and was completely finished in 1106; its vault, therefore, may be dated c. 1100. The nave of Vézelay‡ was probably built after the fire of 1120. Its groined vault is a complete breaking away from Cluniac tradition, which had developed in preference the tunnel vault. In the new groined vaults clerestory light was easily obtained, but not proper abutment. At Speyer resistance seems to be obtained by the enormous thickness of the clerestory wall, and of the piers and of the arches, purposely narrowed, by which it is supported; also by carrying up the clerestory walls, as at Cluny, Paray-le-Monial, and La Charité-sur-Loire; at Vézelay it was, in the end, found necessary to add flying buttresses.

XII. The final step was to substitute the ribbed for the groined vault, to dispose the vaulting compartments of the nave in oblongs, to facilitate the vaulting of these oblongs by the application of the pointed arch, and to transmit the thrusts of the high vault by means of flying buttresses to the buttresses of the aisle walls.

To this Gothic architecture added three developments: (1) it weighted the buttresses with pinnacles; (2) it placed the flying buttresses above the aisle-roofs; (3) to a large extent it replaced the masonry of the walls by glass.

* Ruprich-Robert, *L'architecture normande*, Plan VIII.

† Dehio, *op. cit.*, Book II. c. xii. page 462.

‡ *Archives des monuments historiques*, iii. Plates 10 and 11.

The credit of solving the problem first with ribbed vaulting cannot yet be ascribed with certainty to any one country or district. The nave of S. Ambrogio, Milan, has archaic ribbed vaulting. Its nave, according to Cattaneo,* was rebuilt in the second half of the eleventh century; and in 1196 the damages were repaired which had been caused by the fall of a vault in the nave. The choir of Saint-Denis received a ribbed vault 1140-1144. The naves of Sens and Angers cathedrals, both of which have ribbed vaults, were also commenced c. 1140.† In Normandy Lessay‡ was completed in 1180; it has a ribbed vault. Mr. Bilson has adduced strong evidence§ that the existing ribbed vault of Durham nave was completed in 1138, that the transept vaults were finished earlier still, and that the choir may possibly have been vaulted c. 1100.

In Durham nave, the Abbaye-aux-dames, and elsewhere, abutment was sometimes provided by flying buttresses disposed beneath the aisle-roof. In Gothic the flying buttresses are placed above the aisle-roof.

XIII. This solution was no solution. It consisted in omitting the vault. The nave, however, is not constructed in genuine basilican fashion, as in the first method, but is built as if a vault were intended. The home of this unworthy construction is Normandy, but unvaulted Romanesque naves were constructed at any rate as far east as the great abbey-church of Saint-Remi, Reims.¶ The two great abbey-churches of Caen were not vaulted till a date fixed by M. Regnier c. 1180, but by M. Lefèvre-Pontalis c. 1160. Nearly all the Romanesque churches in England were still unvaulted at the end of the twelfth century.

Of the above solutions of the vaulting problem we may at once set aside the first, in which the basilica retains the column; of this perhaps the finest example is S. Abbondio, Como.¶ Outside Italy this type is quite exceptional. The sixth, the "arch and lintel" system, never passed outside of Syria, and does not concern us. Three more solutions failed to create schools, and may be dismissed—the fourth, that of Loches; the fifth, that of Le Puy and Saint-Hilaire, Poitiers; the seventh, that of Tournus. Groined naves are comparatively few, and in principle do not greatly differ from ribbed naves; so we may eliminate the eleventh solution. This leaves us with seven or eight solutions: No. 3, the dome and pendentive; No. 2, the hall-church; No. 8, the tunnel-vault, with single aisle, without clerestory; No. 9, the tunnel, with upper and lower aisle, without clerestory; No. 10, the tunnel, with clerestory; No. 12, the ribbed vault; No. 13, the unvaulted nave.

Of these the third, the employment of a dome resting on pendentives, is by itself a full and satisfactory criterion. It occurs nowhere except in a group of some thirty-five churches in the district of PÉRIGUEUX, with such "outliers" as Fontevrault and Angoulême.

No. 2, the hall-church, is most common in the south-west and south of France, from PORTOU to PROVENÇE. It may be vaulted either with a longitudinal tunnel or with groined or ribbed vaults.**

No. 8, where a tunnel-vault rests directly on the pier arches, occupies much the same districts as No. 2.

No. 9, where the tunnel rests on the arches of an upper aisle, extends from Clermont-Ferrand in AUVERGNE to the south-west as far as Conques and Toulouse.

No. 10A, where the tunnel is combined with a triforium and clerestory, is the final development reached in BURGUNDY.

* Cattaneo, *Architecture in Italy*, p. 247.

† Anthyme Saint-Paul.

‡ Ruprich-Robert, *op. cit.*, Plan 8.

§ JOURNAL OF THE R.I.B.A., 3rd series, Vol. VI., Nos. 9 and 10.

¶ S. Remi, par Gosset, 1900, Plates 1 and 2.

¶ For the Basilican type see Hubsch, *Die altchristlichen Kirchen*; also Mothes, *op. cit.*, and Rohault de Fleury, *La messe et ses monuments*.

** Dehio, *op. cit.*, Plate 93.

No. 10B, where there is tunnel and clerestory, but no triforium, is the solution of PROVENCE, and of Piedmont.*

No. 12, the ribbed vault, occurs sporadically, except in GERMANY and LOMBARDY, where it is characteristic.

No. 13, the unvaulted nave, was nearly universal in NORMANDY and England till the twelfth century was well advanced, and is found sporadically elsewhere.

PLAN.

We may now proceed to see how these eight divisions will stand other tests. A very important test is afforded by the planning of a church, especially of its eastern limb. Unfortunately, no part of the churches has suffered so much as the choir. In England there is not a single cathedral choir but was rebuilt, enlarged, or remodelled after the year 1175. But in France this process of reconstruction set in much earlier. Many Romanesque choirs were remodelled even in Romanesque days. This is not always fully recognised, and much misunderstanding has arisen from ignorance of the fact that the present eastern limb, even though Romanesque, is not always the original one. Many a church which was triapsal was converted into a "chevet" church, *e.g.* the great Cluniac church of La Charité-sur-Loire.† Others, which had a "chevet" already, were given a larger one, with perhaps a double ambulatory. It is not possible here to enter at length into all the ramifications of Romanesque planning; it must suffice to trace four main types of choir-plan.

The first is that with three parallel eastern apses, of which there is a variant with square-ended aisles, as at Cerisy-la-Forêt,§ and another with aisles square externally and semicircular internally, as at Romsey. This is pre-eminently the plan where the unvaulted nave prevails, *viz.* NORMANDY. It is frequent in LOMBARDY and in those PROVENÇAL churches that have aisles.

A second plan is that of the ambulatory and "chevet."|| It is rare in Germany, Lombardy, and Provence, and non-existent in Normandy (excluding England). Its region is partly conterminous with that of the tunnel-vaulted churches—*viz.* POITOU, AUVERGNE, and BURGUNDY; in fact, it is the predominant type in Burgundy and all Southern France except Provence and the Périgordian region.

In GERMANY characteristic plans are (1) an apse without ambulatory or chevet, as at Mayence and Speyer; and (2) three apses, disposed to east, north, and south, as in S. Maria in Capitolio, Cologne. Other eastern plans are found. But the special feature of German planning is the occurrence of an apse at the west as well as at the east end; and of a western transept, as at Mayence and Laach. The western apse was probably a characteristic of German Romanesque from the very first; it occurs in the ninth-century plan of the Benedictine church of Saint-Gall.¶ The plans alone, apart from other considerations, would entitle Germany, with Switzerland, to rank as a distinct architectural province.

In PROVENCE, of course, the planning depends on the presence of aisles. Its aisled churches generally have three parallel eastern apses.

The "chevet" plan is later in origin, and altogether a higher development than plans with a single apse or triple apses—which, indeed, it has often superseded. We may, therefore, perhaps come to the important conclusion that the earlier developments of Romanesque are

* De Dartein, p. 500.

† At Canterbury also Lanfranc's choir was rebuilt by Priors Ernulph and Conrad.

‡ Dehio, *op. cit.*, Plans 120 (2), and 121 (3).

§ Ruprich-Robert, *op. cit.*, Plate 54 (7).

|| I use the term "chevet" in the sense of a ring of chapels encircling an apse or an ambulatory.

¶ Fergusson, *History*, ii. Plan 686.

due mainly to those districts where the "chevet" plan now prevails—viz. Burgundy, Auvergne, the West of France, and to some extent England, and that the prevalence of other forms of planning is a mark of retrograde Romanesque.

CENTRAL TOWER.

We may test our divisions again by the treatment of the central tower : (1) its vaulting ; (2) its shape, whether square or octagonal.

The Romanesque builders had three forms of vault at their disposal in the eleventh century : the groined vault, the tunnel-vault, and the dome. The most difficult problem they had to cope with in vaulting was the question of putting a vault over the crossing, resting not on walls, but on four unbuttressed legs. They had hardly dared yet to put a groined vault over their naves, fearing its concentrated thrusts. Their favourite tunnel-vault could not be used at all at the crossing, for it needed solid walls for its support. They had perforce to use the dome—in all cases, I think, except in the Périgueux district, resting on squinches.

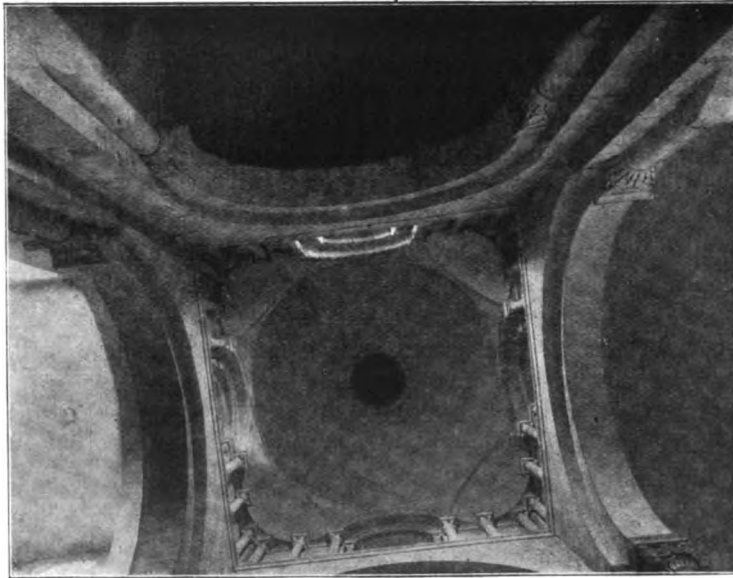


FIG. 9.—TOURNUS. INTERIOR OF CENTRAL DOME.

Secondly, they had to stop the thrusts of this dome by carrying up a central tower to weight the arches or walling on which the dome rested.* As regards the shape of this tower, they had two alternatives. The crossing was square, and so the tower over it might be square, as was the great central tower of Cluny and the magnificent central tower of Tournus. But the squinches reduced the square of the crossing to an octagon ; and as the tower rested directly on the octagon, and not on the square, it was more natural that the tower also should be octagonal. Hence that magnificent series of octagonal central towers in BURGUNDY and SOUTHERN FRANCE, GERMANY, and LOMBARDY, culminating at Mayence and Saint-Sernin, Toulouse. In NORMANDY and England, on the other hand, the builders hardly ever dared to vault their naves at that early date, and never the crossing. And there being no dome in an Anglo-Norman tower, it is almost always square.

The treatment of the central tower, as well as the general absence of vaulting in the nave, therefore, sharply separates off Normandy and England from all the other Romanesque regions.

* If I am right, the existence of central towers is due to the presence of domes over the crossing ; and, further, the origin of transepts is not to be found in symbolical reasons, but in the necessity to provide abutment to the

north and south to central towers. It should be remembered, however, that a central tower (like the central domes of Le Puy and Angoulême) was also valuable for lighting purposes.

TOWER GROUPS.

The grouping of the towers affords another valuable test.

(1) The glorification of the tower reaches its highest pitch in GERMANY. There were four towers at Paulinzelle, Saint-Castor, Coblenz, and the Apostles' Church, Cologne. Six towers are found at Speyer, Worms, and Laach, * seven at Limburg and at Tournai. To such wealth of towers there are few parallels elsewhere. At Cluny there were six towers; eight, if the staircase turrets of the central transept be included. Saint-Martin, Tours, seems to have had five towers, of which two remain. Canterbury was designed by Prior Conrad to have five towers. In the Early Gothic cathedrals from five to nine towers were projected, *e.g.* at Laon, Saint-Denis, Rheims, Chartres; but in no case were they ever completed.

(2) In BURGUNDY the magnificent tower group of Cluny seems to have remained without a rival. Its daughter churches, La Charité, Souvigny, Paray-le-Monial, and Vézelay were satisfied with a triplet; an octagonal central tower and two square western towers was the favourite arrangement. The towers have several stages, similar in form.

(3) In NORMANDY also the triplet was the favourite, but the central tower was square, and not domed internally.

(4) In POITOU—*e.g.* Notre-Dame, Poitiers, Bassac, Fénieux,† the characteristic is the conical spire, "en pomme de pin," which often surmounts the tower.

(5) In the PÉRIGORDIAN region is seen the same conical spire, *e.g.* on the campanile of Saint-Front, together with the characteristic cupolas.

(6) In PROVENCE "a simple square tower is common, with a very low spire."‡ But some—*e.g.* Saint-Martin-de-Londres and Le Thor—have central octagons.

(7) In AUVERGNE, Orcival has one tower, Saint-Nectaire has three. But a specially characteristic arrangement is that of a square western tower in the centre of the façade, and a central octagon. This is seen at Issoire; Brioude; Notre-Dame du Port, Clermont; Saint-Étienne de Nevers, which, as pointed out above, § is mainly an Auvergne church; and is particularly common to the west of Auvergne, in what Anthyme Saint-Paul|| calls the Limousin region, *e.g.* at Le Dorat.¶ The towers are always of two stories, and often rest on an oblong basement.

The Toulouse region, which is closely connected with that of Auvergne, is distinguished from it by the pooriness of its western towers, which are plain, simple structures, not crowned with spires.**

(8) In NORTHERN ITALY the campanile type greatly predominates; and where the massive Romanesque tower is found, it is usually divided, in campanile fashion, into very numerous stages. Nowhere, except in the Como churches, does the campanile form part of the structure of the church; often it is quite detached.

It would appear, then, from this brief survey, that in the vaulting, form, and number of the towers we have a valuable criterion in delimiting the frontiers of the various Romanesque provinces.

SUMMARY.

Space does not permit me to push the analysis further. There are other data which certainly ought to be considered before laying down any final classification, such as the plan

* For view of Laach see Whewell, *Architectural Notes on German Churches*, Plate III.

† Dehio, *op. cit.*, Plate 277.

‡ Choisy, *Histoire*, ii. 246.

§ See division X. above, p. 279.

|| *Histoire monumentale*, p. 118.

¶ View in Dehio, *op. cit.*, Plate 252.

** Anthyme Saint-Paul, *Histoire monumentale*, p. 117.

and vaulting of the transept, and also of the apse, the form of the supports, the ornamentation and sculpture, &c. And the analysis should be pushed into the work of the countries adjacent to France, so as to include the whole field of Romanesque in Italy, Germany, Switzerland, Spain, the Low Countries, and Scandinavia. It would also be necessary to distinguish between the Romanesque of the eleventh century and its developments and final form in the twelfth century. For the present I must be content to discriminate the following eight schools of Romanesque, leaving the classification to be revised and extended by others. I have added various minor characteristics.

I. The PÉRIGORDIAN school. The leading characteristic is the dome on pendentives, and consequently the absence of aisles. Sometimes a "chevet" of chapels is found, as at Saint-Jean de Cole, Cahors, Solignac, Souillac, and Angoulême; but as there are no aisles, there is no ambulatory, except at Fontevrault, * which is geographically an "outlier." In the eleventh century the domes had solid stone roofs; in the twelfth they had external roofs of wood.† The pointed arch is in use early.‡

II. The PORTEVIN school has no upper aisle, nor has it any clerestory, as its tunnel-vault rests directly on the pier arches. There is usually ambulatory and chevet. The central tower has a dome beneath the octagon, often crowned, as in the Périgordian region, with a spire "en pomme de pin." The tunnels are light and have wooden roofs. The pointed arch does not appear till the twelfth century.§ There is an exuberance of sculpture, and equestrian figures appear, e.g. at Civray. This school was the first to carve large statues in high relief, independent of the wall behind.|| Examples are Notre-Dame de Poitiers, Saint-Savin, Chauvigny, Châtellerault, Civray, Villesalem, Saintes, Surgères, Aulnay, Melle, Gensai, Montbron, Vieux-Parthenay, Airvault. Saint-Laurent in the Nièvre and Polignac in Auvergne are "outliers."¶

III. In the PROVENÇAL style the early church ** is small and without aisles or transepts. The following vaulting system is almost invariable, both in aisled and unaisled churches: a tunnel-vault, usually pointed, and without wooden roof, over the nave; a small dome on squinches over the choir; a semidome over the apse. Later, aisled churches are more common; then transepts appear, and the eastern limb generally has three parallel apses. In the later churches the aisle generally has a demi-berceau, and the nave a clerestory; the internal elevation is one of two stories. Almost all the roofs are of solid stone. The central tower is square or octagonal, and usually contains a small dome. The towers are often simple and plain. The pointed arch appears at the very beginning of the eleventh century, if not earlier; but at first is confined to the domes and tunnels.†† The ribs of the tunnel rest on engaged pilasters; only a few late examples—e.g. Sisteron and Digne—have engaged columns; the same is the case with the Palestine churches. The arches have recessed square orders. We are apt to judge of Provençal sculpture by the exuberant examples at Saint-Trophime, Arles, and Saint-Gilles. But the great majority of the churches are very bare and plain. Roman monuments must still have been plentiful in Provence in the tenth and eleventh centuries; and the earliest carving, e.g. of the Corinthian and Composite caps, is often almost indistinguishable from Roman work of the third or fourth century.

The classical pediment and the entablature with its three members are faithfully

* Plan in Corroyer's *Architecture romane*, p. 287.

† Choisy, *Histoire*, p. 243.

‡ On the Périgordian School see Mr. Spiers's Paper, JOURNAL OF THE R.I.B.A., 20th February 1896; and Sharpe's *Domed Churches of the Charente*.

§ *Ibid.*

|| *Histoire monumentale*, p. 122.

¶ On the Poitevin School see M. Berthelé's *Les Arts en Poitou*.

** E.g. Avignon, Aix, Orange, Cavaillon, Maguelone, Agde.

†† There is a curious reversion to the semicircular form in the tunnels of Sisteron, &c., late in the twelfth century.

reproduced. As time goes on, the detail becomes more and more Romanesque in character.* The internal piers often have no more than a string as a cap. The Provençals, being timid builders, often made the arches of the central tower much lower than the tunnel of the nave—*e.g.* Arles, Digne, Vaison, Sisteron, Saint-Paul-Trois-Châteaux—and corbelled in the arches of the crossing to reduce the span of the dome. The churches are very small and plain, and, with the exception of the early use of the pointed arch, had little to teach the other schools.

Examples of Provençal churches are La Chapelle de la Trinité and Saint-Honorat, Île de Lérins; Montmajour; Saint-Jacques, Béziers; Saintes-Maries; Saint-Ruf; Saint-Martin de Londres; Saint-Guilhem du Désert; Maguelone; Rieux-Mérinville; Avignon Cath.; Thor; Thoronet; Silvacanne; Vaison; Cavaillon; Saint-Trophime, Arles; Saint-Gilles; Tarascon; Saint-Paul-Trois-Châteaux.†

IV. In the AUVERGNE style the nave is covered with a tunnel, at first semicircular, but afterwards obtusely pointed, as at Issoire. There is an upper and a lower aisle; the latter is groined, the former has a *demi-berceau*. There is no clerestory. The interior is two stories high. The vault is thick, and was not intended to have a wooden roof. The east limb has ambulatory and chevet. The central tower is in two stories, rests on an oblong base, contains a dome on squinches, and is octagonal. There is often but one western tower, placed centrally in the façade. The pointed arch appears late. Patterns in coloured lava are common. Triangular arches are used decoratively, and the upper aisle may have a trefoiled arcade. Engaged columns are frequent as buttresses. The Toulouse churches are notable for the great richness and beauty of the sculpture, splendid examples of which are collected in the Toulouse museum; especially interlaced capitals, statuary, and bas-reliefs. In Auvergne the character of the building-stone probably kept the art of sculpture back. Examples are: Notre-Dame du Port (Clermont), Issoire, Saint-Nectaire, Orcival, Brioude, Le Dorat, Saint-Saturnin, Riom, Ébreuil, Chamalières, La Palisse, Roanne, Menat, Chambon, Felletin, Ussel, Mauriac, Figeac. Further to the south are Espalion, Millau, Conques, and Saint-Sernin, Toulouse.‡ “Outliers” in England are: St. John’s chapel in the Tower of London, and Gloucester Choir; and in Spain, Santiago cathedral. Saint-Étienne de Nevers also is an “outlier,” with a Cluniac clerestory.

V. The BURGUNDIAN Romanesque received its highest development at the hands of the monks of Cluny.§ The vault of the nave is a pointed tunnel; it is very light, and is protected by a wooden roof; the tunnel rests on a wall pierced by clerestory windows; it has no abutment in the aisles, but this wall is carried up *above* the spring of the tunnel, so that externally the windows appear to be set very low in the clerestory wall. The internal elevation is one of three stories; the triforium is often unlighted. The aisle has a groined vault; there is no upper aisle, except at Saint-Étienne de Nevers.¶ The pointed arch is used at the end of the eleventh century, not only in the tunnel, but in the aisle-vaulting. The original plan seems to have been a choir of two or three bays, and three parallel eastern apses.¶ This was replaced in most of the larger churches—*e.g.*, Cluny, La Charité, Tournus—by an ambulatory and chevet of chapels. The preference for fluted engaged pilasters is due to the influence of existing Roman monuments, *e.g.* the Porte Saint-André at Autun. The abacus is generally continued to form a string. Strings are exceptionally numerous and large, sometimes taking the form of

* Barr Ferree in the *Architectural Record*, New York, Vol. V. 3, 279.

† See Bevoil’s *Architecture romane du Midi de la France*; Barr Ferree in the *Architectural Record*, New York, Vols. III.–VII.; and MacGibbon’s *Architecture of Provence and the Riviera*. See also the bibliography in Enlart’s *L’Architecture gothique en Italie*, p. 300.

‡ Monograph in *Archives des monuments historiques de la France*. First series.

§ At the head of this Paper is a photograph of Cluny taken from the model in a glass case in the museum.

¶ But cf. Châtel-Montagne.

¶ *E.g.*, Autun cathedral, Semur, and Châteauneuf, all of which are triapsal.

strings of large roses. The design of the floriated capitals and mouldings is admirable; equally so is the execution, owing to the good quality of the stone. Because of the survival of much Roman work, classical detail is common.* Only the carving of Toulouse and Provence can vie with that of Burgundy. The towers differ from those of Auvergne in having several stages, all similar in form, and pierced on each face by two openings, rarely united beneath a single arch.† As in the Lombardic and German styles, arcades occur under the cornice of the apse, and on the flanks pilaster strips joined together by arches.

The chief examples are Cluny, of which the south arm of the central transept survives; Paray-le-Monial; Saulieu; Beaune; La Charité; Autun cathedral; Semur and Châteauneuf, both in Brionnais. Saint-Benoit-sur-Loire is an "outlier"; Tournus and Vézelay are quite exceptional.

VI. In considering NORMAN Romanesque it may be convenient to exclude its developments in England, which will be considered separately. In the eleventh century this was the most backward of all the Romanesque schools. No nave was vaulted, with the possible exception of the choir of Saint-Nicolas, Caen; but the trouble and expense of high vaults not being incurred, the Normans were able to build churches vast in scale. In sculpture also this was the most backward of all the Romanesque schools. Though they had the fine Caen stone, they were driven to mere geometrical ornament, such as the billet and chevron; mouldings were coarse and clumsy; and they were frequently content with plain cubical capitals.‡ They made the semicircular arch suffice, even in vaulting. The pointed arch hardly appears before 1180, and does not come into general use till much later. An upper vaulted aisle, as at Jumièges, is exceptional; but a lofty triforium, with windows in the back wall,§ is not uncommon. The aisles have at first groined and, later, ribbed vaulting. The piers often alternate, as in the Lombardic and German schools. The piers are generally compound, and have engaged columns. The internal elevation is one of three stories; there is a clerestory, and in front of it a wall passage. The characteristic form of choir is one with three parallel eastern apses, or a variant of this. There is usually a triplet of towers. The central tower is not vaulted, and is square, with windows half-way up each face. The towers were crowned with very low spires. Arcades of intersecting semicircular arches are characteristic. In the end most of the naves received vaults, quadripartite, sexpartite, or quasi-sexpartite,|| or a diaphragmatic system of wooden roof.¶

Examples are the two abbeys and Saint-Nicolas at Caen; Saint-Georges de Boscherville; Bernay; Mont Saint-Michel; Cérisy-la-Forêt; Serquigny; Bayeux; Gravelle; Ouistreham; Jumièges.**

VII. The GERMAN Romanesque was developed late, but reached a higher development than any other school. At the end of the eleventh century, like the school of Normandy, it was still in a backward state. Very few of the naves had been vaulted; as in Normandy, there were no "chevet" plans; the pointed arch was not employed; the plain cubical capital prevails; mouldings are rude; there is little carving. On the other hand, such churches as Speyer, Worms, and Mainz were, as in Normandy, vast in scale. In the end, the naves received ribbed vaults. The nave, as well as the aisles, was vaulted in square compartments, one square compartment of the nave-vault corresponding to two squares of the aisle-vault.†† These vaults were domical. The piers alternate in mass according to the load they

* See Comte Robert de Lastyrie, quoted in Enlart's *L'architecture gothique en Italie*, pp. 233, 234.

† A. Saint-Paul, *Histoire monumentale*, p. 114.

‡ And in England with mere impost, e.g. in the naves of Gloucester and Tewkesbury, both of the twelfth century.

§ E.g. the Abbaye-aux-hommes.

|| Abbaye-aux-dames.

¶ Choisy, *Histoire*, p. 193.

** See Ruprich-Robert, *Architecture normande*.

†† So also in the vault of Boxgrove Priory church.

have to bear, and have engaged columns. There is a clerestory, and a wooden roof over the vault. The internal elevation is one of three stories, but the triforium is often masked by a blank wall. There is usually no upper aisle. The clerestory wall has to be carried high up above the spring of the vault, because the vault is domical; it also weights the supports of the vault—*cf.* the Cluniac method of abutment. In plan the noteworthy points are: (1) the rarity of the “chevet” plan; (2) the western apse; (3) the western transept; (4) northern and southern apses of transepts. The central tower usually is vaulted with a dome on squinches, and is generally an octagon. Towers are unusually numerous, and have special forms of spires or capping. The Norman clerestory has an internal gallery, the German an external. This gallery under the eaves is often open; it serves to ventilate the timbers of the roof, as well as to decorate the unusually large amount of blank wall above the clerestory windows. The walls have often pilaster strips terminating in the arcading beneath the eaves.

Examples are: Speyer; Worms; Mainz; Trier; Brauweiler; St. Stephen's chapel, Ratisbon; St. Bartholomew's chapel, Paderborn; Corvei; Liudgerikapelle, Helmstadt; Doppelkapelle, Neuweiler—which are wholly or in part of the eleventh century: and Laach; Brauweiler; Rosheim; Saint-Martin, Worms; SS. Apostles, Cologne; Bonn minster, with work of the twelfth century. Romanesque was still being done in the thirteenth century, *e.g.* at Bamberg.*

VIII. LOMBARDIC. The Romanesque of the north of Italy varies so much that De Dartein† confines the term “Lombardic” to the work at Milan, Pavia, and the neighbourhood, excluding the Romanesque of (1) Como, (2) Piedmont, (3) Emilia, (4) Verona. The characteristic vaulting system comprises a semidome over the apse, a dome on squinches over the crossing, a tunnel-vault over the transept; but over the nave, as it had aisles, they were afraid to put a tunnel, and constructed a ribbed vault. The dome was sometimes semicircular, usually octagonal. The compartments of the nave vault were at first square, and one compartment of the nave answers to two of the aisles, as in Germany. At S. Ambrogio, Milan, and S. Michele, Pavia, the transverse arches of the upper aisle carried walls, a kind of solid flying buttress. Later on, the Lombard plan was abandoned, the bays of the nave were narrowed, and the compartments became oblong, as at S. Pietro in ciel d'oro, Pavia, consecrated in 1136. But in the end, the Lombard builders reverted to the system of wide bays, making the nave compartments square and those of the aisles oblong, as at S. Teodoro, Pavia, 1150 to 1180, a precedent followed even in the later naves of Florence and Verona cathedrals, and S. Petronio, Bologna. The vaults and domes are very thick, as they supported directly the external covering of tiles or flagstones; as they still do in the baptistery of Alliata and at S. Thomas near Almenno.‡ The vaults and domes are not built of ashlar but of small materials, bricks or rubble. The ribs are very heavy and clumsy. The nave vault is very domical, as in Germany; the vaults of the aisles less so. Both the upper and the lower aisles are vaulted. As it was desired to have one solid roof to span both nave and aisles, an upper vaulted aisle was provided.§ This, as well as the lower aisle, is provided with windows. There is no clerestory; the nave-vault rests on the open arches of the upper aisle. The internal elevation is of two stories. These arrangements resemble those of such an Auvergne church as Issoire, except that in the Auvergne church the opening into the

* Dehio, *op. cit.*, i. 510-516.

† *Étude sur l'architecture Lombarde*. See critique in Cattaneo's *Architecture in Italy*. Also Mothes's *Die Baukunst des Mittelalters in Italien*, and Cordero's *Dell' italiana Architettura durante la dominazione longobardica*.

‡ De Dartein, p. 466.

§ But the upper aisle may be omitted—*e.g.* in the ancient church of SS. Pietro e Paolo, Bologna, and at Pavia in S. Pietro in ciel d'oro and S. Teodoro.

upper aisle is subdivided. As there was one span roof for aisles and nave, it follows that the aisles do not appear in the characteristic Lombardic façade. The arches are semicircular, the piers compound, with engaged columns and pilasters built independently of the internal pier. In the ninth- or tenth-century church of S. Stephen, Verona,* there is a curious sunk ambulatory without chapels; and another very rudimentary and early ambulatory at S. Sofia, Padua, with a small semicircular eastern chapel†; otherwise the ambulatory and "chevet" plan is absent. The favourite plan is that with three eastern apses — *e.g.* S. Ambrogio, Milan; Alliata; S. Teodoro and S. Giovanni in Borgo, Pavia. S. Michele, Pavia, has a single eastern apse. S. Ambrogio is exceptional in not having a transept. Campaniles have no fixed position, and never form part of the body of the church. Owing to the great weight of the vault, the buttresses are given considerable projection. The arches, like the piers, are compound, with recessed orders. The cubical cap is common, and windows with double splay. Stone was scarce and dear, and the mortar was of inferior quality. Blocks of any size were used together, so that level coursing is the exception; sandstone, granite, marble and limestone, flagstones and vast erratics,‡ were mixed up together. Except in the apse and façade, brick was the chief material; the bricks were often not made to size. The voussoirs of the arches are of all sorts of sizes, and often not extradossed. The abacus and cap are often cut from the same block. Of all the Romanesque masonry the Lombardic is the worst. Good masonry does not prevail in Lombardy till well on in the twelfth century.§

As regards the above classification, one word of caution is necessary. When I speak, *e.g.*, of the style or school of Auvergne, I do not mean either that all the churches in Auvergne are built in this style, or that there are no such churches outside Auvergne, but merely that such churches are more common in Auvergne than elsewhere, and may therefore, for convenience, be described as belonging to the style or school of Auvergne. Also it must be noted that the characteristics of each style given above are not universal; numerous exceptions occur. They are merely the features which occur more usually.

One is tempted to try to work out the relations to one another of the different schools. Certain resemblances are patent. The superposed aisles link the style of Lombardy to that of Auvergne; German Romanesque is connected with Lombardic on the one hand, and with Norman on the other. But a much more exhaustive classification is necessary before any results of lasting value are likely to be obtained.

Still stronger is the temptation to inquire into the origins of all the Romanesque styles; whether they are derivatives, as some have held, from Provence, or, as others have held, from Lombardy. Such architectural pedigrees are, however, as a rule, about as trustworthy as a family tree. And there always remains an alternative hypothesis, which seems to have within it much of truth—viz. that the styles were none of them mainly derivative, but that the same problem was engaging all the different regions more or less simultaneously; that the builders of each region were solving it, with some little light indeed from their neighbours, but mainly independently, by empirical experiments of their own, aided by the survival here and there of traditions of Roman construction, and by the study of local Roman monuments, then no doubt far more abundant in each locality than they are now. Does not Bede say that in the north of England, the most savage part of England and the remotest outpost of Roman civilisation, there were still remaining in his time, the beginning of the eighth century, "cities, towers, bridges, and paved roads of the

* Cattaneo, *Architecture in Italy*, Fig. 136.

† Dehio, *op. cit.*, Plate 156.

‡ *E.g.* at S. Abbondio, Como.

§ Ruprich-Robert, *Architecture normande*, pp. 109, 110.

Romans"? Far greater still was the wealth of Roman work in such districts as Provence and Burgundy.

Another caution requisite is that the classification does not cover the whole ground. This is necessarily so. Between each region and the next there was always a debatable ground, where two or more styles would be in simultaneous use. Indeed a "pure" region would be the exception; the greater part of the area of any one country would employ mixtures of style. I may instance England.

ENGLISH ROMANESQUE.

So far as I know, it has always been customary to regard the Romanesque of England and Normandy as one. To me the Romanesque of Normandy seems to be a "pure" style, but that of England a "mixed" style. The points of resemblance of course, are exceedingly numerous and close; but there are also points of difference, which it is difficult to explain as derivative from Normandy. Most important is the planning. Now in Normandy the main characteristic of the plan is the absence of the ambulatory and "chevet," and the preference for three parallel eastern apses. But in England we have or had ambulatory and "chevet" at Canterbury, Norwich, Lewes, Bury, Gloucester, Tewkesbury, Leominster, and elsewhere. This plan cannot have come from Normandy. As a matter of history, all our Romanesque builders were not Normans, nor did they always copy Norman churches. Two bishops, at Norwich and Hereford, were Lorrainers; therefore they knew something of Burgundian Romanesque. The Hereford bishop is distinctly described as having copied Aix-la-Chapelle; 'Aquensem basilicam imitatus.' Where, then, did our "chevets" come from?

We have seen that the "chevet" regions are those of the Romanesque of Poitou, Auvergne, and Burgundy. It cannot have been a "home" development, for it appears full-blown. The question is, From which of the above three districts did we borrow? Look at our tower systems. By far the most common disposition in England, as in Normandy, is the triplet. But Ely and Hereford, and perhaps Winchester and Wymondham, had in addition to the central tower only one western tower, which was placed in the centre of the western façade. Now this is just a characteristic arrangement of the towers of Auvergne. Or take the test of superposed vaulted aisles. These occur in Gloucester choir and in St. John's chapel in the Tower of London; and in both the vault is not the groined vault of the upper aisles of Normandy or Lombardy, but the characteristic demi-berceau of the upper aisles of Auvergne. In addition, the nave of the little chapel in the Tower has what is very rare in England, a semicircular tunnel-vault.* Turning back to Gloucester, we find the Chapter House vaulted with what is another rarity in England, a pointed tunnel. And this tunnel is not of the graceful Gothic form, but just the ugly curve, stilted at its base, which is assumed by the tunnel-vaults of Burgundy and Auvergne. Again, the naves of Gloucester; Tewkesbury; Malvern; Colchester; Carlisle; Southwell; St. Bartholomew's, Smithfield, and others have cylinders and not compound piers. But in Normandy the compound pier seems to be universal, at any rate in the eleventh century, in all the larger churches. Again, the capitals of the Gloucester and Tewkesbury piers are mere imposts. Now all three characteristics—the cylindrical form of the pier, its broddingnagian dimensions, and the impost—all occur in the piers of the great eleventh-century church of Tournus.† These data, individually perhaps of small importance, still go to increase the cumulative value of the evidence for the existence of a non-Norman influence

* Clark, *Medieval Military Architecture*, ii. 215.

† Gloucester also has apses polygonal externally, circular within. So also at Brioude, Conques, and St. Aignan.

in our English Romanesque. It is to be regarded as a mixed style; and while by far the most important factor is the influence of such pre-Conquest churches as Bernay, Jumièges, and the Abbaye-aux-hommes, we must also attribute some degree of importance, at any rate in the planning, to the highly developed Romanesque of Auvergne and Burgundy.*

* One more parallel may be added. Nothing differentiates English Romanesque more from all the Romanesque of the Continent, even from that of Normandy, than the enormous length of such naves as Peterborough, Ely, Winchester, Norwich, St. Albans, and Bury St. Edmund's. Now in the borderland between Burgundy and Auvergne there was built by the Cluniacs the vast church of La Charité-sur-Loire (consecrated 1107). Before the east limb was changed to "chevet" form, it was a veritable English Romanesque minster in form. Instead of the character-

istic Cluniac narthex, such as that of Cluny, Vézelay, and Souvigny, the nave was given exceptional length: it had no fewer than eleven bays, including one between the western towers. And as it had originally three parallel eastern apses, the resemblance to the plan of Ely or St. Albans was exceedingly close. It is possible, then, that in the influence of the Cluniac plan with long narthex, and especially in the modification of it seen at La Charité, we have the precedent for the enormous length of many of our English Romanesque naves.

DISCUSSION OF MR. FRANCIS BOND'S PAPER.

Mr. EDWARD A. GRUNING, *Vice-President*, in the Chair.

COLONEL LENOX PRENDERGAST [*H.A.*] said it had been suggested to him to open the discussion by proposing a vote of thanks to Mr. Bond for the very important Paper he had delivered to them. Probably he (the speaker) knew less of the technical points brought before them than anybody else present, but it was perhaps as well that an outsider should take special note in that room that so strictly technical a Paper was welcome to them all. As to the historical part of the subject, that, of course, was too vast a matter to be got into the Paper, but it so happened that he (the speaker) had made some recent researches as to buildings dating within a century or two of those brought before them by Mr. Bond. One wanted to find out if possible by what process this form of architecture prevailed almost everywhere, reaching even to our own island. Anybody who cared about archæology would know that the Venerable Bede up in the North wrote clearly of buildings that were rising in the eighth and ninth centuries, which were being built here after he had made his visits to Rome, and which he described as being designed "more Romano." Being desirous of tracing where the old Roman methods ended, and where what followed took their place, he (the speaker) made a journey specially to Le Puy, as the late Mr. James Fergusson, then a member of their Council, had mentioned that there he thought perhaps the missing link would be found. In the result, he was unable to follow that clue. Later on, that most valuable work, *L'Architecture de Syrie centrale*, the joint production of the Comte de Vogüé and the late French Ambassador in London, M. Waddington, gave certainly a better clue. There it was possible to make out what the processes were, and it was well worth their while to study them. One advantage of the Paper having been kept to the one phase,

namely that of the Romanesque, was that they were kept clear of the perpetual controversy which arose whenever architecture was touched upon, as to one school against another; but there was no kind of doubt as to the complete and absolute ignorance of the general public about this particular style of architecture. They decided everything by ornamental detail; they thought of nothing but the ornamentation. As to the constructional phase, it would be Greek to them. This should no longer be the case. These magnificent churches had their effect, however: one never met anybody who had been at Durham or in any of the great English churches of that period that did not come away saying, "There is something about this style that it is impossible to describe." So with the Abbaye-aux-hommes and the Abbaye-aux-dames: everybody who travelled was impressed by them, and surely it was worth their while to take some little trouble to learn how their architecture had come about. He confessed that he for one was extremely grateful to the distinguished member who had given them this Paper, for it really was a revelation to him. He could not conclude without congratulating the meeting also on having had the illustrations put before them in so tangible and attractive a form. Lantern displays were often very tiresome exhibitions; but that evening's display had gone off like clock-work, and he congratulated Mr. Bond upon that also.

MR. R. PHENÉ SPIERS [*F.*], F.S.A., said it would be impossible to attempt now to follow Mr. Bond in the arguments he had laid down, arguments which must have taken an immense amount of time to bring together. At one time or another he (Mr. Spiers) had visited very nearly all the buildings Mr. Bond had referred to, and

he had only one regret, viz. that he had not had Mr. Bond's Paper with him when he was going through them. At the same time, it happened that he had been particularly interested in the various methods of construction in vaults and half-vaults he had seen in those churches, and therefore he had been able to follow Mr. Bond's descriptions. As to the classification, he might do a greater service to the Institute and to Mr. Bond if he were to limit himself to noting a few additional examples which would be interesting to take up, for he hoped this was only the starting-point of this subject. Mr. Bond had given them only what could be gone through in the time, viz. the skeleton of a theory upon which many volumes could be written. He hoped Mr. Bond would continue the subject, because he was quite certain of the correctness of the principle on which he had started, viz. the solution of the problem how to vault a basilica. That was a subject which would be of the greatest possible value and interest to all their students. In view, therefore, of the Paper being extended, he ventured to mention one or two buildings, some of earlier date than those referred to in the Paper, and others later. Mr. Bond had been perhaps too timid with regard to the dates, and when, during the reading of the Paper, Colonel Prendergast asked the date of St. Etienne, Périgueux, he simply contented himself with saying that the church was dedicated in 1047. As a matter of fact, there was another earlier church in the vicinity of Périgueux, St. Astier, the date of which was known to be 1010 A.D. St. Astier was the first church he knew of covered with dome and pendentives. The dome and pendentives had gone, but the piers which sustained them were still there. St. Etienne, which was consecrated at the same time as the Basilican church of Saint-Front—viz. in 1047—consisted at that time of certainly two, if not three, domed compartments, and the earliest of these, of which only the east end now remained, was built between 1014 and 1020. It was rather singular that both in this church and in St. Astier—and, it might be, in other examples—instead of beginning, as he believed had always been the custom, with the choir, they seemed to have begun at the opposite end, and it was the east end which was the latest. In another example, Angoulême, which Mr. Bond had mentioned, the western dome dated from an early period—1117 to 1120. That probably was the first portion erected, and then the church was added to. As regards the church of Saint-Front, Mr. Bond had taken the date which he (Mr. Spiers) had attempted to prove, and which had been followed by other authorities, of whom M. Brutails went further, and told them that the bodies of the saints, the bishops, were not brought back to the new church until 1175, so that probably the church

was begun much later than 1120. Of that he had additional proof to suggest. When the Basilican church of Saint-Front was burnt down their first idea seemed to be to copy St. Etienne, because in the middle of the nave of the Basilican church there are now four great piers, which were intended to support a dome. He imagined that while they were about it they thought they might build a finer church; and some of the brethren, having seen St. Mark's, conceived the idea of reproducing the magnificent building, as they saw it before the restoration, with the five domes. The problem of Saint-Hilaire, one of the most wonderful interiors he knew, might be solved in this way. As far as he could make out from Saint-Hilaire, portions of it, such as the transept and aisles, were earlier than the nave; and the problem they seemed to have worked out was this: that they wanted to vault over the nave of the church. But Saint-Hilaire was fifty feet wide—a span they would not dare to attempt at that time. So what they did was to build within the existing nave piers of coupled columns in front of the piers of the existing aisles, to raise arches on those, and to divide them so as to form a square in the middle, which they covered with a dome on squinches. The church, which unfortunately was not illustrated, was of the greatest interest: the beauty of its interior and its suggestions for modern church purposes were very valuable. The next point was as to the circular barrel-vault or the pointed barrel-vault. Although the late Mr. Fergusson was not a practising architect, it was astonishing how very closely he arrived at real practical results in his theories; certainly his ideas seemed valid when he pointed out that the object of the pointed barrel vault was to have less filling-in at the top, because it was the custom to cover over these barrel-vaulted churches direct with tile roofs, with no timber at all. With a pointed arch they came very nearly to the line of a tile roof of a fair pitch; and his idea that that was the reason which led to it seemed a valid one, and would account for such having actually existed before the circular barrel-vault. As regards the church of Tournus, which seemed to him a marvellous building, he could not understand why it had not been reproduced. Mr. Fergusson seemed to fancy that the series of arches thrown across rather interfered with the light. When he saw the church he thought they looked extremely beautiful, and the light got, in consequence of the wall being entirely a plain one, which could be pierced with any number of windows, was splendid. Mr. Bond mentioned, in a note on the question of the date, that the consecration took place in 1019. The church was begun in 1007, after the fire, and was consecrated in 1019. The choir, as Mr. Bond said, was of the twelfth century, but the crypt was the crypt of the old church, dating before the year 1000 A.D. It still existed underneath, and it

was extremely interesting to see on the vault the imprint of the wooden planks which formed the skeleton centering on which the concrete vault was formed. Mr. Bond had shown one case, the church of Hauterive, in which the expedient was adopted of running transverse vaults across the aisles, the thrust of which resisted one another. The Basilican church of Saint-Front had precisely the same system, and the earliest vaulting of Saint-Remi, Reims, was another well-known example. As regards the church of Granson in Switzerland, generally put down as eleventh-century, he was under the impression that Mr. Street in his description said it was early twelfth. Coming to the tests of the plans, there were one or two instances. There was a small church in Switzerland, Saint-Sulpice, certainly very early indeed, in which there were three apses. There were two interesting early eleventh-century churches not far from one another—Vignory and Montierender. There had been some change as regards the east end of the choir of Vignory, and it had been vaulted about 1020 to 1030; if so, that would be one of the earliest instances of vaulting round an apse. The plan of the two bays now embedded in the tower of Saint-Front, Périgueux, was, according to M. Lambert, precisely the same as those of Vignory. There were three interesting churches at Reichenau he should like to refer to—viz. those of Mittelzell, Oberzell, and Unterzell, dating from the ninth to the eleventh centuries. He might also mention, as well as Autun, the church of Langres, which was not far off, and which was subjected to the same Roman influence as Mr. Bond had mentioned—that is to say, the flutings of the piers. There was an ancient Roman gateway at Langres, which no doubt gave the masons the idea of fluting all their columns, just as they saw at Autun, where there were two Roman gateways. That concluded the notes he had made on running through the Paper, which had been one of the greatest possible interest. He hoped Mr. Bond would not drop the subject. The inquiry was one which would give additional interest to every student going abroad, and would enable them to search out more for themselves. Looking at the Paper broadly, he thought Mr. Bond was on the right tack, and he had not been able to find anything he could greatly dispute. There was always this element to lay stress on—that master-masons from the Cluniac monasteries might have been brought from one part of the country to another, and in that way introduced changes not belonging to the exact province in which the building was done. He had much pleasure in seconding the vote of thanks to Mr. Bond for the enormous research he had undertaken, and for the admirable way he had illustrated it.

THE CHAIRMAN having put the vote of thanks, Mr. Bond briefly responded.



9, CONDUIT STREET, LONDON, W., 27th April 1901.

CHRONICLE.

Suspension of By-law 26.

The first business on the agenda at the Special General Meeting on the 15th inst. was to consider a recommendation of the Council that Mr. Wm. Emerson, who has filled the office of President for the two years prescribed by the By-laws, be requested to submit himself for election as President for the ensuing year of office, and that consequently By-law 26 be suspended, as allowed by Section 83 of the Charter.

The CHAIRMAN (Mr. EDW. A. GRUNING, *Vice-President*), in moving the adoption of the recommendation, reminded the Meeting that it had been customary in recent years to ask Presidents to serve a third year, and that, with a single exception, the procedure now recommended by the Council had been followed ever since the present Charter and By-laws had come into operation. Mr. Emerson, he continued, had been an admirable President, and they could pay him no greater compliment than to ask him to serve for another year.

Mr. ALEX. GRAHAM, F.S.A., *Hon. Secretary*, seconded the motion.

Mr. LACY W. RIDGE [*F.*] said he felt it to be his duty to oppose the motion. It was laid down by their constitution that the President should be elected for two years, and that he should not be eligible to serve again until the expiration of two years from the termination of his tenure of office. He was aware that the regulation had been departed from in former cases, and on one occasion he had raised his voice in protest against it. He wished again on the present occasion to urge the Institute to resume its proper position and to carry out the constitution laid down in the By-laws. He remembered all the Presidents of the Institute since they had given up having a sort of patronage President in the case of Earl de Grey, but he did not remember any one man of such distinction as to render the office incapable of being filled by any reasonably efficient practising architect. As he intended to oppose this motion he had written to Mr. Emerson that there was nothing personal to him in his opposition; and he wished to assure the Meeting that he had not the slightest objection to Mr. Emerson. As a matter of fact, everyone, outside those who served on the Council, was aware that the great defect of the Institute was its not being sufficiently in touch with the profession. But how could it be in touch with the profession when the same men were nominated to office over and over again, and when men outside were not called upon to take their share of duty? This state of things went on year after year, and would continue to go on if the Council were to be allowed to bring about the suspension of a by-law merely to get themselves out of some

little personal difficulty. It was a poor line for the Council to take, and it was a line he should ask the General Body to deliver them from. There were many men who had served the office of Vice-President, and surely those men were fit to proceed to the Chair. He failed to see that there was the slightest necessity for this departure from the by-law, and if the Meeting agreed to the recommendation he should oppose it when the resolution was brought forward for confirmation.

Mr. HENRY DAWSON [F.] considered that no sufficient reason had been given for the course recommended. After a by-law had been made and sanctioned by the Privy Council, and become part of the constitution of the Institute, that the Council should make a practice of annulling the by-law, by asking every succeeding President to go on for a third year, was a course of action that would be condemned by all business men, and he hoped members would not support it.

Mr. A. FRAMPTON [A.] thought it the duty of the Institute to endeavour to the utmost of its ability to act in order. Their By-laws provided that the President should hold office for two years, and the recommendation that he should have an opportunity of serving for three was brought before them not by the united members of the Institute but by the Council only. Thus it was not a representative recommendation. He personally did not know Mr. William Emerson, and therefore in his case it was not a matter of personal feeling when he said that at the present juncture it was very desirable that they should have a new President. He had one great reason for so expressing himself—and his opinion was held by many members of the Institute and also by the profession generally—viz. that the present President of the Institute was serving on the Committee of the Queen Victoria Memorial. Acting in that capacity Mr. Emerson had been the means of, or had been a party to, the selection of certain architects to compete for that memorial. He contended that the first duty of a President of such an Institute as theirs was to represent their interests, and their interests only.

The CHAIRMAN remarked that they had no reason to suppose that Mr. Emerson concurred in the decision come to by the Memorial Committee.

Mr. FRAMPTON, continuing, said that that could be expressed afterwards, but the President was identified with that Committee, and it would show the feeling of the Institute about the matter if they declined to have the by-law suspended, and insisted on a change of President on this occasion. Therefore, as Mr. William Emerson was connected with the Memorial Committee, he should support Mr. Ridge's protest and urge that the by-law be not suspended.

After some discussion as to the precedents which existed for the Council's action, the CHAIRMAN said that, no amendment being proposed, he would put the matter to the vote, reminding the meeting that under Section 28 of the Charter, as the question related to the suspension of a by-law, Fellows only were entitled to vote upon it.

Mr. RIDGE said, as that was the case, he would move an amendment—"That it is undesirable that the office of President should be held for three years in succession in contravention of the by-law." If he moved that it would be an academic expression of opinion on which the Associates had a right to vote.

The CHAIRMAN held that the vote on that point could not be taken until the original motion had been dealt with; therefore he could not put it as an amendment.

A vote of the Fellows by a show of hands for and against the motion was then taken, and the numbers found to be as follows: For the motion, 36; Against, 12. The requirements of By-law 62 having thus been met, viz. that the majority must consist of "at least two-thirds of those present having a right to vote and voting," the Resolution was declared carried.

Mr. RIDGE said that the resolution would have to be brought forward at a subsequent meeting for confirmation, when he should oppose it again. Meanwhile he would move the following Resolution: "That it is undesirable that the By-laws should be suspended with the object of enlarging the tenure of the office of the President beyond the period laid down in the By-laws."

Mr. HENRY DAWSON [F.] seconded.

Mr. JOHN SLATER [F.] said he did not think Mr. Ridge could bring forward his motion on that occasion, when they had assembled for special business. A Resolution of that kind could not be brought forward unless the necessary notice was given.

Mr. RIDGE having asked for the ruling of the Chair on the point, the CHAIRMAN referred him to By-law 60, which provides: "The Council may at any time call a Special General Meeting for a specific purpose, and they shall at any time during the Session be bound to do so on the written requisition of twelve subscribing members, of whom the majority shall be Fellows, which shall specify the nature of the business to be transacted; and no other business shall be discussed at such meeting."

After some further discussion, it being pointed out that, under By-law 56, fourteen days' notice must be given of any motion intended to be submitted, Mr. RIDGE said that as that would carry them over the date on which the confirmation of the Resolution was to take place, he would withdraw his opposition to the suspension of the by-law for this occasion only. He would, however, at once give notice that at the first opportunity—either that day fortnight or whenever it was convenient—he would move a Resolution, of the abstract character he had indicated, that the thing in future should not be done. If the whole matter could be settled in that way he should consider that he had done an extremely good thing for the Institute.

A Special General Meeting, summoned by the Council in accordance with the Charter for the purpose of submitting for confirmation the resolution suspending By-law 26, was held pursuant to notice on the 22nd inst., when the resolution was duly confirmed.

The Institute Form of Building Contract.

The next business on the agenda at the Meeting of the 15th inst. was for the Meeting to give its sanction to the alterations in the Institute Form of Contract proposed by the Council on the basis of the amendments adopted at the meeting of the 1st inst. The amended clauses are printed in the last number of the JOURNAL [*ante*, p. 260], and the further variations agreed to are sufficiently indicated in the report of the discussion at the meeting of the 1st inst. [*ante*, p. 263].

The CHAIRMAN said that, the amended clauses having been considered and passed *seriatim* at the last meeting, he would now move their adoption *en bloc*, and that they be substituted for the clauses similarly numbered in the Contract Form in use since 1895.

The motion having been seconded by the Hon. Secretary, the Chairman, in reply to Mr. Henry Dawson [F.], stated that it was open to anyone to propose any further amendment.

Mr. HENRY DAWSON said he wished to propose the insertion of a few words in Clause 12. The clause as printed read as follows: "12.—The Contractor shall, when authorised by the architect, or as provided by Clause 5, vary by way of extra or omission from the

Drawings or Specification; such authorisation is to be sufficiently proved by any writing or drawing given by the Architect, or by any subsequent written approval by him. No claim for an extra shall be allowed unless it shall have been executed under the provisions of Clause 5, or by the authority of the Architect as herein mentioned. Any such extra is hereinafter referred to as an authorised extra."

The CHAIRMAN, interrupting, said he had forgotten to mention that they proposed to add after the words "approval by him" the following words: "but he shall make no variation without such authorisation."

Mr. DAWSON stated that the addition of those words would meet his objection on that part of the clause; but with regard to the passage, "such authorisation is to be sufficiently proved by any writing or drawing by the architect," he suggested that that was not explicit enough—that it ought to read, "signed and given by the architect."

Mr. SLATER having suggested that the word "signed" instead of "given" would meet the case, Mr. DAWSON acquiesced, and the amendment, having been put to the Meeting, was carried.

Mr. DAWSON, continuing, said the omission in Clause 17 of the words "or other person" was a very good amendment; but in Clause 20 they were repeating the same words: "All specialists, merchants, tradesmen or others, executing any work, or supplying any goods for which prime cost prices or provisional sums are included in the specification, who may at any time be nominated, selected, or approved by the architect, are hereby declared to be sub-contractors employed by the contractor." There were a great many gentlemen in different crafts connected with the profession who, he knew positively, would most distinctly object to be sub-contractors to the contractor. Therefore he suggested there should be inserted in the fourth line the words: "who may at any time be nominated, selected, or approved by the architect as sub-contractors." The clause would then be consistent, and if the architect proposed a sub-contractor, he would have to enter into the bargain referred to farther on in the clause. The difficulty was not an imaginary one by any means. He could mention at once three or four firms who would refuse to be in any way subject to the building contractor. They would, therefore, be employed by the owner.

The CHAIRMAN explained that the reason for altering it was that it made the contractor liable for all accidents to everybody who might be on the premises, and made him provide scaffolding for everybody without knowing to what extent he had to provide it. He was only bound to provide for those who were nominated as sub-contractors by the architect under the terms of his contract, while at the same time he was to afford facilities for the execution of work by others who were not sub-contractors.

Mr. DAWSON said they would find presently, under a subsequent clause, that the contractor did not afford facilities. He quite saw the motive of the change, but the difficulty could be got over by stating that the architect meant that the persons he nominated were to be sub-contractors.

Mr. SLATER said that it seemed to him that Mr. Dawson had himself indicated how the difficulty could be removed. If he put into any clause specifying £200 for plumbing work, or £500 for anything else, that the employer was to be at liberty to take it out of the contract, undoubtedly that prevented the man from being a sub-contractor *ipso facto*. If that were put in, the people they were alluding to would not be sub-contractors. The clause was only intended to apply to the people whom they did not take the option of excluding from special things, and it would not in the least affect the case which Mr. Dawson had himself given of putting those people in and saying that the employer was to be allowed to take them out and pay them himself. If he did that it avoided all the difficulty,

and there was no reason why the words should not remain.

Mr. EDWARD MONSON [F.] thought that this clause would give architects a very great deal of trouble, and that it would be best to strike it out altogether.

After some further discussion, in which Messrs. Monson, Dawson, Saxon Snell, Slater, and the Chairman took part, Mr. Dawson withdrew his amendment, the Chairman stating that the remedy for any such objection lay in members' own hands, as they could alter the contract to meet their own views.

Passing to Clause 21, which states that "any claim made under the Workmen's Compensation Act 1897, or any amendment thereof, by any person in the employ of the contractor," Mr. DAWSON suggested that the words "or of an approved sub-contractor" should be added.

The CHAIRMAN pointed out that there were several cases in which it had been held that all the workmen employed by sub-contractors were in the employ of the contractor, and therefore the addition of the words proposed would be superfluous.

Mr. DAWSON went on to Clause 29, commenting upon the omission of all reference to the scaffolding and the plant. If they put into the contract that the contractor should permit the execution of certain work, surely they ought to put in that he was to permit the erection of the scaffolding or plant required for such work.

The CHAIRMAN said that the matter had been discussed very carefully, and the conclusion came to that they could not put in a contract that a man was to provide unlimited scaffolding for work of which he knew nothing. Therefore they left it to be inserted as an item in the specification, where it ought to be, and not in the contract.

Mr. A. N. BROMLEY [F.] (Nottingham), referring to the arbitration clause, said he had no doubt it was the best that could possibly be drawn, but for very small contracts, if this clause were adopted, there was nothing to prevent the cost of the arbitration coming to very nearly as much as the contract. Would it not be possible to draw up a clause, independently of the one before them, for use in small contracts, whereby the arbitration costs could be limited? If the Institute did not do it the different Societies—at least, theirs in Nottingham—would certainly have to draw up one to prevent the large cost of arbitrations. There was nothing to prevent a builder, for instance, if an important point arose and his Association backed him up, introducing into the case expensive counsel and expert witnesses, and in a small contract the result was almost ruinous to a small builder or to a proprietor of limited means. He hoped the Institute would consider it, and draw up an alternative clause for the benefit of those who had to carry out small contracts.

The CHAIRMAN said he could not see how it was possible to limit the expense of legal proceedings in arbitrations. Could they insert a clause to say that the cost of any arbitration was not to exceed £20?

Mr. BROMLEY: No; but it might be provided that the architect and builder should first of all lay the facts before the referee; then the referee should appoint a hearing and let them know what evidence he would require. His experience was that the referee paid little regard to counsel or expert witnesses. He got his information privately and formed his judgment independently. In the case of small contracts, where a man builds a house for a thousand pounds, having to borrow perhaps half of it, an arbitration on any point might cost more than his £500. He could give two instances within a fortnight where the united claims were £500 and the costs mounted up to £1,000.

Mr. DAWSON observed that architects in the country, in making their contracts, could easily prepare an arbitration clause to prevent such expense as that referred to.

Mr. BROMLEY said they were anxious to follow as much as possible the Institute Contract, and the Builders' Association at Nottingham looked to the architects there to adopt this contract when it was settled. For that reason he suggested that a supplementary clause should be drawn to meet the cases he had indicated.

The CHAIRMAN said that the great trouble in these cases was in the selection of the arbitrator. An arbitrator could suggest at the first hearing that he only desired absolutely necessary witnesses and would not require counsel.

Mr. BROMLEY: Under this clause he would be forced to have counsel and expert witnesses.

The CHAIRMAN stated that he had a fairly large practice as an arbitrator, and that he could and did stop it. They would, however, be glad to consider a proposal for a special clause if the Nottingham Society had any suggestion to offer.

Mr. SLATER pointed out that, even with this clause in the contract, it was perfectly competent for the architect and builder to agree beforehand that in case of dispute there should be only certain evidence and no counsel. In a 500*l.* contract, for instance, there was nothing to prevent the architect and builder agreeing that they would not bring in counsel, and would not bring forward more than one or two witnesses.

Mr. LEWIS SOLOMON [*F.*] said that in Clause 13, which provided that "The variations shall be valued at the rates contained in the contractor's original estimate, or, where the same may not apply, at rates proportionate to the prices therein contained," he should like to have inserted something to this effect: "Where an evident error is made in the priced quantities, that shall not be binding on the Employer or Builder." Mr. Solomon proceeded to give instances where evident errors, greatly to the client's disadvantage, had been made in the priced quantities, and yet the client had been called upon to pay the charges.

The CHAIRMAN thought that in a general contract it was not possible to provide for *minutiae* of that kind.

The motion, "That the Paper as amended, subject to the small verbal alteration indicated, be adopted as the Form of Contract of the Institute," was then put to the meeting, and declared duly carried.

The Queen Victoria Memorial.

At the conclusion of the business for which the Special General Meeting of the 15th inst. was held, Mr. Wm. Woodward asked leave to call attention to the proposal recently made public for procuring designs for the Queen Victoria Memorial, and, if he was in order, to move a resolution on the subject. The Chairman stated that the Meeting having been summoned for special purposes, it was not competent for a member to bring forward a resolution on a subject foreign to those purposes, but there was no objection to Mr. Woodward making any observations on the matter he referred to. Mr. Woodward said he would only call attention to the general subject, and, by the Chairman's permission, read the resolutions without moving them. He would then take the earliest opportunity of requisitioning the Council in due form to call a Special General Meeting for the purpose of considering his resolutions and voting upon them. Mr. Woodward then briefly sketched the history of the scheme down to the selection of the five architects charged to submit

rival plans, and concluded by reading his resolutions.

Since the meeting a requisition for a Special General Meeting to consider the resolutions has been received by the Council, signed by the following members:—Wm. Woodward [*A.*], Sidney R. J. Smith [*F.*], Zeph. King [*F.*], R. Falconer MacDonald [*F.*], Edmund W. Wimperis [*A.*], Arthur G. Morrice [*A.*], W. Hilton Nash [*F.*], Edw. Monson [*F.*], Alfred Frampton [*A.*], George Judge [*F.*], Henry T. Hare [*F.*], Harold R. Luck [*A.*], R. Stephen Ayling [*F.*], J. Douglass Mathews [*F.*].

The Council have summoned a meeting for Monday, the 29th inst., as already intimated in the notice issued to members last Monday, where Mr. Woodward's resolutions are set out at length.

Special Election to Fellowship.

The Council at their meeting on the 22nd inst. elected the following gentleman to the Fellowship of the Royal Institute in accordance with the unanimous recommendation of the Council of the Sheffield Society of Architects—viz.:—

W. J. HALE, of 18, St. James' Row, Sheffield.

The April Statutory Examinations.

Examinations of candidates desirous of qualifying for the office of District Surveyor under the London County Council, or of Building Surveyor under Local Authorities, were held by the Institute, pursuant to statute, on the 18th and 19th inst.

Three candidates attended the Examination for the office of District Surveyor in London, and two passed, viz.:—

SIDNEY JOSEPH HALSE, of 4, Hesterecombe Avenue, Fulham, S.W.

FRANK SIZER CAPON, of 6, Northanger Road, Streatham Common, S.W.

Three candidates attended the Examination for the office of Building Surveyor under Local Authorities, and one passed, viz.:—

JAMES EDWIN WEBB, of 27, Balfour Road, Nottingham.

The successful candidates have been granted by the Council of the Institute certificates of competency to hold the respective offices.

Obituary.—We regret to announce the death of Mr. John James Thomson, who was elected *Associate* of the Institute in 1864, *Fellow* in 1898, and was recently transferred to the class of *Retired Fellows*. Mr. Thomson held for many years the office of Superintending Surveyor to the Board of Agriculture.



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WORCESTER CATHEDRAL, FROM THE NORTH.

REVIEWS.

WORCESTER CATHEDRAL.

The Cathedral Church of Worcester. By Edward F. Strange. *Bell's Cathedral Series.* 80. Lond. 1900. Price 1s. 6d. [Messrs. George Bell & Sons, York Street, Covent Garden.]

These handy little volumes purport to give "a critical and descriptive survey of the building in all its detail." In the General Introduction it is promised that the volumes shall contain—among other illustrations—"reproductions from old and in some cases rare prints." The fulfilment of this promise must strongly commend the books, for it is highly interesting to see the previous states of the building we are for the moment considering, especially when that building is one so exceptionally liable to vicissitudes as is a cathedral church. As examples I may mention, in the Salisbury volume, the view of the Close before Wyatt pulled down the campanile, and, in the Hereford volume, the view of the Nave in ruins. The Worcester volume contains six good views showing that which no longer exists. The "View of Worcester in 1778" must have been taken from the site of the present bridge. It shows a slip where there is now a high quay wall, and volumes of smoke issuing from the kiln

where Dr. Wall's immediate successor * was firing his matchless scale blue. Paul Sandby, R.A., the artist, has very accurately depicted the bend of the river and the relative position of the church; we may, therefore, well credit him with equal faithfulness in his drawing of the building, even down to the mutilated pinnacle at the west end. The favourite point of view now is from the opposite bank of the Severn, but in 1798, as we see from a reproduction of the water-colour by J. Powell, it had additional charms in the shape of a picturesque group of buildings crowning the walled bank of the river. These buildings were the eighteenth-century survivals of those which "Magister Capellæ hath," as Dr. Hopkins (Prebendary 1675-1700) tells us in his note-book of extracts made from the Cathedral archives, and usefully quoted by Mr. Strange in the volume before us. Two small boys are seen fishing at the mouth of the sewer of the monastic necessarium, and their successors do the same to this day a little higher up, where the "Faithful City" discharges its sewage into the long-suffering Severn. Under Magister Capellæ's capacious residence exists still a stretch seventy feet long of Norman rib-vaulting, extending up to the site of the

* Dr. Wall died in 1776.

dormitory. No one can go round the west end of the Cathedral down to the ferry gate-house, which still preserves the fifteenth-century vault and gateway of the ancient water-gate, without wishing to know something about the considerable remains at this spot. Mr. Strange contents himself with a reference to Professor Willis's admirable account of the monastic buildings; but the *Archæological Journal*, vol. xx., is not in everybody's hands. Powell's sketch shows the west window, then a nine-years-old example of Perpendicular as she was spoke or caricatured in the eighteenth century.

The view from the north-east before restoration is very taking. It brings into prominence the unusually drawn-up character of the pinnacles. From some points of view these must have looked ill, but from this one they compose admirably, and give the design of the church great piquancy and interest. Two more illustrations—the nave looking east, and the choir looking west—should serve to show the adherents of the "vista" heresy the error of their ways, even as they woe-fully show us Worcester folk what we have lost by the senseless banishment of the organ from its loft.

Our author gives twenty-one pages of "History of the Cathedral," which pages form a most useful prelude to his critical and descriptive survey. He begins this part of his work with a remark on the striking effect of the building as seen from a distance. On an autumn evening, from the high ground of St. John's—the Vigornian Ultra Pontem—it is an impressive and beautiful object, and it is thither, rather than anywhere to the eastward, that a visitor desiring a moderately distant view should be directed. Mr. Strange says that the near view from the precincts on the north side is not disappointing. I think it is very much so, owing chiefly to the amount of renovation which the whole exterior—except a small part of the north aisle walls at the west end—has necessarily undergone, and to the meanness of the slated roof. Nor will any one familiar with Salisbury agree with the statement that "perhaps Worcester is the most consistent in its general lines of all the ancient cathedrals."

Mr. Strange, in a methodical manner, starting from the extreme south-west angle, takes us round outside to the south-east corner, describes the tower, and then introduces us to the interior. He is rather too conscientious in the enumeration of features, such as staircase lights and gable crosses, which tell nothing of the past vicissitudes of the fabric, which no one can help observing for himself, and which, being neither very good nor very bad, call for no remark. In his recent paper on "West Fronts," Mr. Statham dismisses Worcester's as an "end totally devoid of greatness of effect. The Decorated window was substituted by Scott for a Perpendicular one, as a rebuke to the

medieval architects." This last is a very nice phrase, and well deserved in many cases, but not here, for the genuine Perpendicular window had, like pretty well every other external feature, gone the way of all "new red" nearly a hundred years before. A little bit of history concerning the opening of a way round the west end should be quoted from Green for the benefit of all *laudatores temporis acti*, and as a tribute to good Deans Martin and Waugh, circa 1750. Before this time, or the time of one of them, "passengers used to convey every kind of burthen through the north porch, across the nave, to the cloister door."

Attention should have been called to the two west bays on the north side, for there, and there alone (the jambs of the north doorway being excluded), externally, is any pre-restoration walling to be seen. The width of the north porch Mr. Strange gives as 8 feet, instead of 16 feet in the clear of the stone benches. His "two Perpendicular windows with flat ogee heads" have the usual elliptic heads of that style, with an ogival hood continued vertically to form a roll moulding. The north window of the great transept, he tells us, "is of ordinary character." Who would see in this description a very correctly designed, very geometrical, modern, over-sized window? The corbel table is oddly described as "a course of trefoil arcading on consoles."

By his opening remarks on the interior our cicerone reveals a leaning to the tenets of the "vista" sect, lovers of the *coup d'œil*, as though the interior of a church should affect one as does a *mise-en-scène* at Drury Lane. If the Rood-loft may not bear the Rood and the attendant figures, at least let it be substantial enough to carry the very moderate-sized organ which alone is wanted for accompanying the choir. If Mr. Strange does not remember how much more impressive was St. Paul's before the removal of the organ from the screen, at least he might study the two interior views mentioned above, and compare them with the corresponding views of the church as it is. If he still needs enlightenment, his musical friends will supply it, for, from their point of view, the screen is the place for the choir-accompanying organ. The objection about cutting the church in two has no force in a case like this of Worcester, where, the choir being seven steps higher than the nave, the separation is constructional and insurmountable.

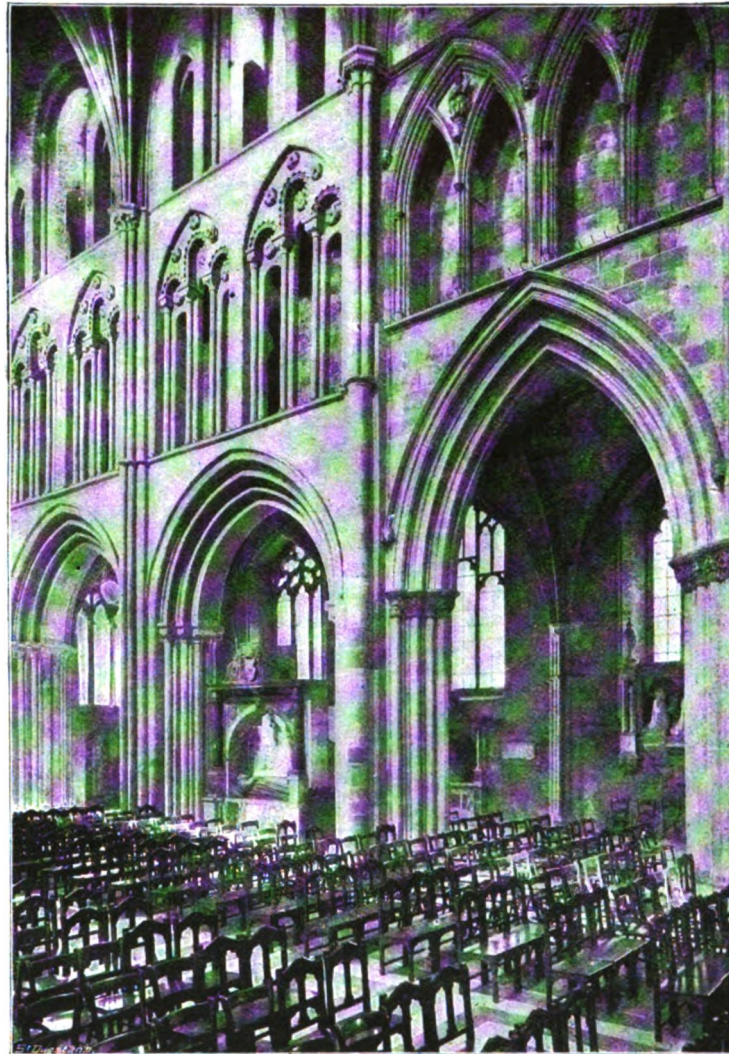
The view, from a photograph, of the three western bays, well illustrates what Mr. Strange has to say about the very interesting two bays at the west end. He says "the arches are pointed, but (*sic*) rise from late Roman capitals." Why "but"? The pointed arches of Buildwas Abbey (1135-1160) are no enigma, while to these two bays Professor Willis assigns the later date of 1175-1200. Further on, Mr. Strange says that "the triforium stages have three-light windows."

This does not agree with the usual conception of a triforium.

Concerning the date of these two bays—the most interesting part of the nave—a difference of opinion comes to light between Professor Willis and Mr. E. S. Prior (in his *History of Gothic Art in England*), who gives their date as 1160. I incline to Willis's view. The Professor, aided by the lens of great knowledge of masonry, minutely examined the fabric, and he brings out the fact, which I think Mr. Strange misses, that in the piers on north and south, where the Norman and Decorated work meet, there is Norman masonry of two dates. The "two great Norman shafts" belong to the earlier church—Wolstan's—to which also belong the crypt, the nave aisle walls (except, of course, the outside), the core of the tower piers, the great transept walls, and the slype; but the pier mouldings which embrace these shafts are Decorated on the east and later Norman on the west side. What he means by "two grotesque consoles at the heads" of these shafts, I do not know. These two bays are vaulted in a kind of tufa, a material due to petrification, and resembling sponge, found and still occasionally used in the Stockton-on-Teme neighbourhood, some fifteen miles to the west of Worcester. The rock is excessively soft when quarried, but hardens in the air. The Normans were fond of it in these western counties—the church of Morcas, in Herefordshire, *e.g.*, being largely built of it—and, being somewhat of a rarity, Mr. Strange should have directed our attention to its employment for the filling-in of the vault.

Before leaving these two west bays, I cannot help saying that Mr. Strange's plan would have been more instructive had he distinguished by different hatchings the various dates of the work. A handbook such as this should be educational and judicial. It should teach Architecture, and it should, reviewing the deeds of Deans and Chapters, mete out praise and blame. Mr. Strange should therefore have extolled the quiet and dignified coursed stone vault westward of the choir screen, and he should have deplored the plastered soffit

eastward of that line. Willis points out that the Lady Chapel was vaulted with rough lumps of tufa; but the vault thence, as far as the tower, "presents," he says, "a continuous surface"—beneath, of course: for above, the work throughout the Lady Chapel, choir, and eastern transepts seems to have been grouted; courses are not to



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THE NAVE, THREE WESTERN BAYS.

be seen, except perhaps in one spot, and the backs of the ribs do not appear at all. Granting that the rubble work could not at the restoration have been left unplastered, one may well regret that the beauty of a vault—the joint lines of its courses aiding the perspective, and its surface mottled by the varying texture and colour of the stones—should have been re-obsured (for the

restorers scraped it clear of eighteenth-century whitewash) by a plaster surface covered with vermicular scrolls and filaments, with patterns and medallions.

The choir, we are told, "has a good effect." A local guide-book claims for the modern reredos the chief and almost exclusive interest of the choir, but really Mr. Strange's faint praise is not much less heinous. Professor Willis describes it as "a structure of singular beauty, extending to more than double the length of the original eastern building, and giving the church the distinction of an eastern transept equal in height to the central alley of the presbytery, and only found elsewhere in England in Canterbury, York, Lincoln, Sarum, Beverley, and Rochester, and on the Continent only at St. Benoît-sur-Loire and Cluny, the former doubtless the prototype of English examples." Mr. Strange says that the Lady Chapel and smaller transepts are contemporary with the choir, but in so saying he ignores the differences in the mouldings of the transverse vault ribs and of the main arcades. One pattern is used for the eastern part (the "Frons") up to and including the first arch west of the crossing, another thence up to the tower. Now the pier on which the western half of this arch rests has its base outside the wall of the crypt, and, as Willis further shows, there is to be seen in the spandrel a junction of masonry pointing to the eastern part having been first built. In 1222 a great storm, our author tells us, threw down the lesser towers. These, Willis suggests, flanked the apse. Probably, then, the Norman apse was partly destroyed, the presbytery and choir remaining, however, in a usable condition. In 1224, the monks and the bishop having effected a "compositio," there was set afoot the "*novum opus frontis*," i.e. the east end of a new and stately Lady Chapel, starting a long way out in the cemetery, and quite clear of the Norman work, carried westward and joined up to the Norman presbytery walls at the point indicated above. We may, then, suppose that pressure of fashion, or genuine appreciation of the graces and refinements of the new style, induced the bishop and monks to pull down the ruder work of their predecessors, and to continue the Early English work up to the tower, the junction being very plainly seen in the north wall, which still preserves some vousoirs of the pier and triforium arches of the Norman choir, with some stones of the string and of the clerestory window jamb, all *in situ*.

Mr. Strange does well to compare the Worcester choir with the coeval *chef d'œuvre* at Pershore, and he will earn the gratitude of any visitor who is induced by the reference to devote half a day to the visiting of that beautiful fragment. We may also thank him for calling our attention to the brass rings which in some places, but not in

all (and the variation does not occur at random), cover the beds of the detached Purbeck shafts. Basing his remarks on Willis, he says these rings "were merely used to cover the unsightly joints of a method of fastening the lengths of shafting to the column by T-shaped cramps." I do not think this account is quite clear, nor quite what the expert professor meant. The cramps were, I gather, dowels with a tang, not T-shaped, but T-shaped, the tang being driven into a bed of the main pier at the requisite height to suit each shaft, the several shafts of any particular cluster not being of uniform length. Owing to the unequal settlement of monolithic shafts and many-coursed piers, the beds of the former would be squeezed out, or their edges flushed. To hide this ragged appearance, then, did Bishop Giffard (1268-1301), when he "adorned the choir with marble columns," affix his rings of gilded brass. Further, it may be observed that in the four piers of the eastern crossing, i.e. exactly where there is less weight to be carried, the shafts are bedded on marble annulets.

In connection with this part of the church Mr. Strange is sure of attention in what he tells us about the settlements that had reached an alarming pitch, "such as," says Willis, "to threaten the stability of the structure." The piers of the crossing were dangerously inclining inwards. This danger was met, in 1702-1712, by building a stone wall from pier to pier, "ornamented with gigantic quatrefoils." This wall Mr. Perkins, under whom in 1857 the great restoration works were begun, removed, and the failing piers he thoroughly repaired. But we are not told how. Inasmuch as the failing and bulging of the western piers must have been mainly due to the communicated thrust of the tower arches, the work of removing the props and repairing the piers must have been a very hazardous one, and its successful accomplishment proves that those who undertook it were no less skilful than bold.

Most people, observing from the old prints that the east end formerly had a large Perpendicular window, would ask what has become of it, and what justification there is for the present double-tiered arrangement of five lancets. The window seen in the prints replaced in 1792 a magnificent east window after the style of Gloucester east window, but much decayed. This late eighteenth-century effort had probably, like its predecessor, become ruinous. "The management, then, of the east end," as Willis observes, "was reduced to a choice between a modern conjectural restoration of the great traceried window and a modern conjectural restoration of the original Early English termination." Mr. Perkins, deciding for the latter, took as his model the group of lancet windows in the east wall of the smaller transept hard by. His decision was further justified by the existence at the east end of passages leading from the

triforium, and indicating that there was originally a gallery across the east wall, dividing it, as in the small transept. This Mr. Perkins reproduced. All the above information about the east end is given by Willis, and I think Mr. Strange should have embodied it in his book and spared us the enumeration of subjects of sculpture, new and old, and names of figures on the overwrought modern pulpit.

Before leaving the choir the author gives a full description of the monuments therein and thereabouts; but why does he omit to censure the handful of modern canopies at the west end of the stalls on each side, awkwardly placed at an angle, and jostling one another in terror lest they should come too far forward and obstruct the vista? Why has he no words of severer stricture still for the swell-box of the organ, a quite recent masonry erection projecting nearly half across the choir aisle, awkwardly intersecting with the vault, and thinly disguised by gilt pipes?

Of the crypt—"a complex and beautiful temple," as Willis justly calls it—we ought to have had a plan, for it is rather a bewildering place on first entering it. Our guide must have experienced this, for he says the aisle has two rows of pillars, whereas it has but one. The centre of the crypt is occupied, not by an avenue, but by a row of pillars. This brings about at the centre of the apse "a unique and most picturesque combination" (Willis) of arches radiating from a central pillar, from which Willis derives the central pillar which is characteristic of English chapter-houses. Of this Mr. Strange says nothing; nor does he mention the circumscribing aisle, which, though now blocked, undoubtedly once existed—howbeit in some ill-directed diggings a few years ago nothing to establish the fact was found. These omissions are not trivial, because, in consequence, a visitor might be led to visit not at all, or only hastily, one of the four apsidal crypts in England, the undoubted work of St. Wolstan—work until recently absolutely unrestored or spoilt in any way. "Recently," because five years ago, to provide an air-chamber for the overgrown combination of the organs (on the Hope-Jones principle), two severies of the annexe or crypt under St. John's Chapel were built up with masonry from side to side and from floor to vault. This act not only robs this side crypt of more than half its length, but it makes the eastern bay inaccessible, although no use is made thereof. This

eastern end of the crypt chapel has special interest as being the only post-Norman part of the crypt. In the thirteenth century, to provide, it is said, a burial place for the Earls of Gloucester, the Norman apse was replaced by a square end extending a few feet to the eastward. Surely, if only *pour décourager les autres*, Mr. Strange



THE CHOIR, LOOKING-WEST, BEFORE RESTORATION. (From Will.)

should have had some remarks to make on such a perpetration as this.

We are told that the organ till recently used for regular choir services was built by Thomas Dallam (*sic*) in 1614. The author of *A Short Account of Organs, &c.*, mentions Robert Dallom, "cittizen [*sic*] and blacksmith" of London, as the most celebrated builder of his (pre-Commonwealth) time. He built the York Minster organ—that "most excellent-large-plump-lusty-full-speaking-Organ"—which, as Master John Mace, Lay-clerk of Trinity College, Cambridge, tells us, "came (as I may say) Thundering in, even so as it made the very Ground shake under us (oh! the unutterable, ravishing Soul's delight!)." At any rate, Dallam or Dallom, our late choir organ (or part of it) was one of the very few which "escaped even the extraordinary occasions of mischief to which that city was

subjected," as the aforesaid writer pertinently observes; and who shall say that the tale of "occasions of mischief" is complete even now?

Mr. Strange gives a list of the fifty-five stops and thirty couplers and accessories in the great and complicated machine, and then passes on to the bells, of which he gives a good and interesting account. But he might well have alluded to the story of the Dane who was fittingly lynched, having been caught in the act of trying to get away with the Sanctus bell. The author of a recent paper on the ancient church bells in this county says that there is enough truth in this story—is not a piece of the sacrilegious Dane's skin still to be seen on part of the old door preserved in the ante-room to the library?—to show that there were bells here in Saxon times.

The bells of the church seem to have been a thing but little accounted of here (still less at Sarum, where the ring in the campanile disappeared without a trace) by those responsible for their safe-keeping. Thus it is to be gathered from our author that there were three partly or wholly distinct *sets*—I do not say *rings*, for a reason which will presently appear—of bells before the present elaborate ring of twelve, with three half-tone bells added, and a bourdon-bell (which is not swung, unfortunately) of 90 cwt. It is not known generally, if at all, when the Clocherium was built. In 1175, "Turris nova Wigorn. corruit;" probably, then, to find a home for the bells, or to avoid the risk of a repetition of the disaster, the Clocherium was built. At the beginning of the sixteenth century, Prior Moore gives a list of four and a clock-bell. In 1189 the people of Gloucester, our rival now in the production of oratorio, resorted to a robust method of competition, in the course of which they raided the sister city. Whereupon, says Florence, a contemporary monk quoted by our author, "we now, in alarm for the treasures of the Sanctuary, put on our albs, and, while the bells tolled, bore the relics of Oswald, our most gentle patron, out of the Church." Assuming that these bells were not destroyed in 1175, and that they received the addition of the "great bells cast by W. de Bradewe, the Sacristan," and consecrated by Bishop de Blois (1218–1236), they formed Moore's set of five. In 1787 there were eight. The inscriptions on these Mr. Strange gives us, and from them it seems more than probable that this ring included one, possibly four, of the earlier set. I think it likely that these ancient bells were not in scale, and that Moore's treble, second, third, and clock-bell may have formed the eighteenth-century second, third, sixth, and tenor. In 1868, "the second having been stolen during the restoration of the tower," seven remained; of them only two were clearly the same as in the 1787 list, while the tenor was inscribed "In honore S'ti Wolstani Epi." We may well

wonder, with Mr. Strange, why, if this was a pre-Reformation bell, no earlier mention was made of it, and still more why it should have been allowed to pass into other hands, for this peal has been "expatriated." Lord Amherst has four, which, as was stated by the writer of the paper mentioned above, were the four old Cathedral bells of the thirteenth, fourteenth, and fifteenth centuries.

In his account of "the monastic buildings and precincts," Mr. Strange is rather tantalising. In the valuable quotation from Dr. Hopkins' (1675–1700) extracts from the archives we have, besides details of the "Belfrey" (it was 210 feet high), the names of the houses appropriated to ten of the officials. Mr. Strange might well have given us more information about these buildings. There is much available. There are three residences existing now on the sites of those assigned to the Tumbarius, the Sub-Prior, and the Eleemosynarius, and doubtless these contain considerable remains of the original houses; while as recently as 1841 five more of the residences of the old capitular body were surviving. The present Deanery, again, Mr. Strange credits with no more ancient remains than a fourteenth-century vault, but it has Early English work, and is worthy generally of more notice than it here receives. In the Norman passage out of the west walk of the cloister that led to the infirmary is the opening to the staircase up to the dormitory, and in the same walk the doorway through which the Sub-Prior passed to perform his senior-prefectorial duties. These Mr. Strange should have noticed, as also the double use of the slype, or passage, belonging to the earlier Norman period, leading out of the east walk. It was not only the place "for marchants to utter ther waires" (as we learn from *The Rites of Durham*), but also, through it, in case of a death in the house, "the dead corpses was caryed by the monnckes" to be buried in the "sentuarie garth." It further communicated with the Prior's house, and gave that dread personage a covered way into the cloister, church, and all the monastic offices. By a slip, Mr. Strange makes the entrance to the chapter-house from the west instead of from the east walk. In connection with this building, it is not easy, without reference to Willis, to see how, when "walls had become dangerous owing to the thrust of the vault," . . . satisfactory "results" could ensue from cutting them away. It also ought to be pointed out that not only the central pillar, but all the lower part of the work inside, is Norman. "The whole principle of the repair in circa 1400," says Willis, "consisted in remedying the defective mechanical construction of the Norman masons." This is a text on which the author of a "critical and descriptive survey" might usefully have preached a short sermon. It was not, says Willis, a case of "wanton desire to bring the old building into

harmony with the fashion of the time," and "nothing more was done than was absolutely necessary." There was no "occasion of mischief" then, whatever there may have been since.

The Guesten Hall is a very thorny subject. Purchasers of the handbook who look at the pathetic photograph reproduced by Mr. Strange, or visitors who scan the remains themselves and the grand roof transferred to the clever modern church near the station at Shrub Hill, may well feel indignant at reading of the demolition of this fine hall, built in 1820 and destroyed in 1860; but it was, except at the cost of most expensive repairs, hopelessly ruinous, and this we can the more easily understand when we read in Willis that the principals of the flat pitched roof did not come opposite the buttresses.

When the remains of a great house, as was this, are under consideration, everything that helps one to realise the life of those who were its members is very valuable to all but the cursory visitor. For this reason Mr. Strange, it would seem, should have done more than merely mention *The Rites of Durham*, a record of 1598, giving, as Willis says, peculiar and unique information,

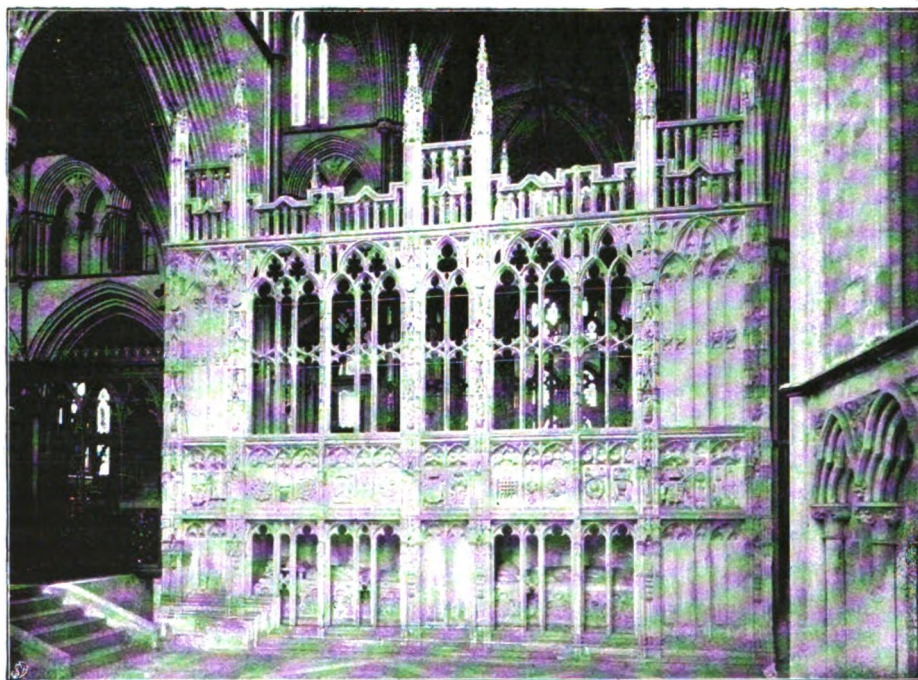
not only as to monastic life in general, but as to that of a monastery in many ways closely resembling Worcester.

Perhaps, however, in what has been said too much notice has been taken of such shortcomings as must appertain to so small a volume as a handbook. It can readily be granted that this little book is a great advance on the ordinary guidebook; and if, in addition to giving its purchaser much information presented in a readable form, it inspires him with the desire of knowing more, who shall say that the writer has not done his work well?

One Parthian shot Mr. Strange, and most of his brother writers, must bear the brunt of. In describing a piece of modern work he, and they, give the materials, the subjects, the donor, the carver, but full seldom the name of the architect who designed it. Thus we have more than half a page about the most recent work of any importance in the church—the Jesus Chapel, with its screen and reredos; all sorts of detailed information is given us excepting the name of Mr. A. Briggs, the designer of this scholarly and intricate work.

Worcester.

A. B. PINCKNEY, *M.A. Cantab.*



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PRINCE ARTHUR'S CHANTRY, WORCESTER.

MINUTES. XI.

At a Special General Meeting, held Monday, 15th April 1901, at 8 p.m., Mr. Edw. A. Gruning, *Vice-President*, in the Chair, with 57 Fellows (including 10 members of the Council) and 26 Associates (including 2 members of the Council), the Minutes of the Meeting held 1st April [p. 268] were taken as read and signed as correct.

The Hon. Secretary announced the decease of John William Blakey (Liverpool), *Associate*, elected 1893.

The following Fellows, attending for the first time since their election, were formally admitted and signed the register—viz. Butler Wilson, President of the Leeds and Yorkshire Architectural Society, and Robert Stephen Ayling.

The Chairman having moved, and the Hon. Secretary seconded, the adoption of a recommendation of the Council that Mr. Wm. Emerson, whose term as President would expire, under By-law 26, in June next, be requested to allow himself to be nominated as President for the ensuing year of office, and that consequently the aforesaid by-law be suspended, Mr. Lacy W. Ridge [*F.*], supported by Messrs. Henry Dawson [*F.*] and A. Frampton [*A.*], protested against the course proposed, and urged the President's retirement in accordance with the by-law. Whereupon, the motion having been put from the Chair for voting upon by Fellows only in accordance with Section 28 of the Charter, it was

RESOLVED, by a majority of 24 (36 voting for and 12 against the motion), that Mr. Wm. Emerson, *President*, be requested to allow himself to be nominated as President for the ensuing year of office, and that consequently By-law 26 be suspended for one year.

Mr. Lacy W. Ridge having moved a general resolution that it was undesirable to suspend the operation of a by-law for the purpose of prolonging a President's tenure of office beyond the time fixed by the by-law, the Chairman ruled the motion out of order in default of the notice required by By-law 56. Mr. Ridge thereupon intimated his intention of bringing the resolution forward at the first available meeting.

The Chairman having moved, and the Hon. Secretary seconded, the adoption of alterations in the Institute Form of Contract made by the Council on the basis of the amendments resolved upon at the meeting of the 1st April, a further alteration was agreed to in Clause 12; and various objections as to other parts of the Form having been answered by the Chairman, it was

RESOLVED, that the amendments in the Institute Form of Contract be adopted; that the Institute do sanction the issue of the revised Form as an Institute Paper; and that the old Form be withdrawn from circulation.

Mr. Wm. Woodward [*A.*], having referred to the proposed limited competition for the National Memorial to Queen Victoria, gave notice of his intention to requisition the Council to summon a Special General Meeting to consider a resolution urging that the Memorial be open to the competition of all British (including Colonial) architects, sculptors, and artists.

The Chairman having given notice of a Special General Meeting convened for the 22nd April to confirm the resolution for the suspension of By-law 26, the proceedings closed, and the Meeting separated at 9.30 p.m.

At a Special General Meeting held Monday, 22nd April 1901, at 8 p.m., Mr. Edw. A. Gruning, *Vice-President*, in the Chair, with 26 Fellows (including 10 members of the Council), 24 Associates (including 1 member of the Council), 3 Hon. Associates, and visitors, the Minutes of the Special General Meeting held Monday, 15th April [see above], were taken as read and signed as correct.

The Chairman announced that the Meeting had been convened by the Council, pursuant to Section 33 of the Charter, to submit for confirmation the Resolution suspending By-law 26 passed at the previous meeting, and the motion, having been put from the chair, was seconded by the Hon. Secretary; whereupon it was

RESOLVED, *nem. con.*, that the Resolution of the Royal Institute suspending By-law 26 for one year, passed at the Special General Meeting of the 15th April 1901, be confirmed.

The Special General Meeting then terminated.

At the Eleventh General Meeting of the Session 1900-1901, held Monday, 22nd April 1901, at the conclusion of the Special General Meeting above minuted, Mr. Edw. A. Gruning, *Vice-President*, in the Chair, with Fellows, Associates, Hon. Associates, and visitors present, as enumerated above, the following members attending for the first time since their election were formally admitted, viz., Frederick de Jersey Clere, *Fellow*, Hon. Secretary R.I.B.A. for New Zealand, and Alexander Symon, *Associate*.

The Secretary announced the results of the April Statutory Examinations held by the Institute [p. 296].

A Paper by Mr. Francis Bond, M.A. [*H.A.*], on THE CLASSIFICATION OF ROMANESQUE ARCHITECTURE, having been read by the author, and illustrated by numerous photographic lantern-slides, a discussion ensued, and a vote of thanks was passed to Mr. Bond by acclamation.

The Chairman having announced that a Special General Meeting had been summoned by the Council for the following Monday, in compliance with the requisition of members, to consider various resolutions relating to the proposed National Memorial to Queen Victoria, the proceedings closed, and the Meeting separated at 10 p.m.



REPORT OF THE COUNCIL FOR THE OFFICIAL YEAR 1900-1901.

Approved and adopted by the Annual General Meeting, Monday, 6th May 1901.

IN their Annual Report for the official year 1900-1901, the Council have to deal with a period of considerable activity, marked by unusual incidents. The greatest and most serious event has been the loss by death of the gracious and beneficent Patron of the Institute, almost since its first incorporation in 1837, Her late Majesty Queen Victoria. By sending a telegram of condolence, a wreath, and a humble and loyal address to His Majesty King Edward VII., the Council have done their best to express in a manner worthy of the Royal Institute the deep and affectionate sorrow of members, their sincere and humble sympathy with the King and the Royal Family, and their loyal and devoted adherence to His Majesty's person and throne.

His Majesty has graciously consented to continue as King the patronage which he has extended to the Institute as Prince of Wales since the year 1863, and it is also His Majesty's pleasure to continue Her late Majesty's generous grant of an annual Royal Gold Medal to the nominee of the Royal Institute. The non-award of the Royal Gold Medal for this year has been unavoidable, and though the Council regret a break in an institution that has been continuous for fifty-three years, yet they feel that, in future years, the gap in the list of Gold Medallists opposite the year 1901 will in itself be a mute and pathetic record of the irreparable loss of the royal and gracious donor.

Since the publication of the last Annual Report the Council have held 20 meetings, of which the Council elected in June last have held 16.

There have been also meetings of the following Committees of Council:—Finance, Professional Questions, Annual Dinner, Conditions of Contract, Paris Exhibition, Professional Advertisement, New Institute Premises, Special Congress, Architectural Museum, Heating and Ventilating Engineers.

Meetings of the following Institute Committees have also been held:—The four Standing Committees, Board of Examiners, Statutory Board of Examiners, Competitions, Prizes and Studentships, Professional Status, Ancient Lights (joint with Surveyors' Institution), Local By-laws, General Congress.

The following tabular statement shows the present subscribing membership of the Institute, compared with that at the corresponding period last year:

Year	Fellows	Associates	Hon. Associates	Total
1900	620	1,013	45	1,678
1901	621	1,028	46	1,695

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During the official year since the last Annual General Meeting 29 Fellows have been elected, 46 Associates, 8 Hon. Associates, and 1 Hon. Fellow. Two Hon. Corr. Members have been elected: J. Antoine Bouvard (Paris) and J. G. Pedro d'Avila (Lisbon).

The Council must attribute the smallness of the increase in membership in the class of Fellows to the more than usually heavy losses by death, by resignation, by transference to the class of Retired Fellows, and by other removals from the list. There have been only three special elections to the Fellowship by the Council under the new proviso to By-law 9, as compared with 11 last year and 12 the year before. On the other hand, the ordinary elections to the Fellowship by the general body have been 27, as against 21, 14, and 8 respectively in the three preceding years.

The losses by death have been as follows:—*Fellows*: Charles Barry, Henry Cowell Boyes, John Burnet, John Butler, Francis Chambers, Henry Currey, Charles Henry Driver, William Charles Evans-Vaughan, Joseph Goddard, Horace Gundry, Edward Joseph Hansom, Thomas Harris, William Hepper, Newton Edward Jennings, Thomas Meakin Lockwood, William Henry Powell, John Murray Robertson, Lloyd Tayler, James Buckley Wilson, William Young. *Associates*: John William Blakey, Frederick Boreham, Henry Greenslade Wade. *Retired Fellows*: Henry Astley Darbishire, William Milford Teulon, John James Thomson. *Hon. Corr. Members*: Giuseppe Poggi, Antoine Henri Revoil, Jules Jacques van Ysendyck.

The usual progressive examinations were held in June and November 1900, and the Council have to report a steady increase in the number of candidates for each of the examinations. The Preliminary and Intermediate were held in London, Birmingham, Bristol, Cardiff, Manchester, Newcastle, Nottingham, and York, and the very cordial thanks of the Council are again due to the Hon. Secretaries and Examination Committees of the various Allied Societies for their ready and valuable assistance. The Final and "Special" Examinations were held in London only. The results are shown in the following tabulated forms. In compliance with a request made at the Annual General Meeting last year, the Council show the number of Metropolitan and non-Metropolitan candidates for the Intermediate and the Final. There were 7 candidates during the year for the "Special" Examination for Architects in Practice over 25 years of age and Chief Assistants over 30, of whom 6 passed.

PRELIMINARY EXAMINATION.

Exempted	Examined	Passed	Relegated	Total
67	816	286	80	363

INTERMEDIATE EXAMINATION.

	Examined	Passed	Relegated
Metropolitan	47	34	13
Non-Metropolitan	75	43	32
Total	122	77	45

FINAL AND SPECIAL EXAMINATIONS.

	Examined	Passed	Relegated
Metropolitan	54	28	26
Non-Metropolitan	44	19	25
Total	98	47	51

The total number of candidates examined during the year was 603, as against 548 in 1900. The number of Probationers of the Institute now stands at 1507, and of Students at 368.

The Council again regret to say that the Arthur Cates prizes for the best testimonies of study (supplemented by certain specified sheets of drawings) submitted by Students for

admission to the Final Examination have not been awarded this year, no Student who had passed the examination having fulfilled the conditions.

The Ashpitel Prize has been awarded to Mr. Shirley Harrison [A.], who passed the Final Examination in November, and extra prizes to Messrs. C. E. Varndell [A.] and Heaton Comyn [A.].

The "Special" Examination will be held this June in Sydney and Montreal.

The Council desire to tender to the Board of Examiners their very warm thanks for the arduous task they have performed with such devotion and energy.

Statutory Examinations were held in October and April last, when Certificates of Competency were granted to Messrs. Richard Dominic Hansom, Herbert Alfred Legg [A.], James Edwin Webb, Sidney Joseph Halse, and Frank Sizer Capon.

The Royal Gold Medal was awarded last year to the Professore Commendatore Lanciani [Hon. Corr. Member], of Rome, for his works as an archæologist and architectural writer.

The Deed of Award of the various Prizes and Studentships was presented to the Institute at a General Meeting on the 21st January. At the distribution of Prizes on the 25th February, after the President's Address to Students, a criticism of the work submitted was read by Mr. J. A. Gotch [F.]. An exhibition of the drawings was held from the 15th to the 26th January in the Gallery of the Alpine Club. A selection from the Prize Drawings is now being sent round for exhibition at the allied centres.

The collection of paintings of the Royal Institute has been enriched by an admirable portrait of Professor George Aitchison, R.A., Past President, by Sir Lawrence Alma-Tadema, R.A. The portrait will be exhibited at the Royal Academy this year. As a mark of their appreciation both of the constant and kindly services Sir Lawrence has rendered to the Institute for the twenty-four years of his membership as an Hon. Associate, and of the great eminence to which he has risen in his art, the Council took the opportunity of his painting this portrait to ask him to allow them to propose to the General Body his election as an Hon. Fellow. Sir Lawrence was duly elected at the General Meeting on the 18th February.

The Council have the pleasure to record the fact that the President, Mr. William Emerson, is a member of the advisory sub-committee of the general committee on the question of the National Memorial to her late Majesty.

The President was also a member of the Art Committee of the Royal Commission for the Paris Exhibition 1900.

A most important event in the year was the General Architectural Congress held in London, under the administration of the Institute, from the 18th to 25th June. The proceedings are duly reported in the JOURNAL (Vol. VII., pp. 407-421), and the papers and discussions have been published in a special Congress number of the JOURNAL. The meetings and the visits were well attended, and considerable public interest was aroused.

By the kind permission of the Lord Mayor and Corporation a *Conversazione* was held on the 19th June, during the Congress week, at the Guildhall.

On the 22nd June, also during the Congress week, the Annual Dinner of the Institute was held at the Whitehall Rooms, Hôtel Métropole. H.R.H. the Duke of Cambridge, the Archbishop of Canterbury, the Bishop of London (whose untimely decease in January last the Council take the opportunity sincerely to deplore), the Master of the Rolls, the Lord Mayor, and many other distinguished guests were present. The total number that sat down was 270. The Council consider they are justified in saying that it was the largest and one of the most brilliant gatherings of the kind in the history of the Institute.

The Fifth International Congress of Architects was held at Paris during the week commencing the 30th July. The Institute was represented by Professor G. Baldwin Brown [H.A.]

and the Secretary, whose Report of the Congress is printed in the JOURNAL [Vol. VII., pp. 469-474]. The Sixth Congress will be held in Madrid in the spring of 1903.

The Council have been invited by the authorities of the Glasgow International Exhibition 1901 to contribute to the Fine Art Section an exhibit from the collections of the Royal Institute, a bay in one of the galleries being placed at their disposal. The Council have complied with the request, and have sent the portraits of Professor Cockerell, Sir Gilbert Scott, and Mr. F. C. Penrose; marble busts of Inigo Jones, Sir Christopher Wren, Sir Charles Barry, and George Edmund Street; and a large number of drawings.

The Council have acceded to the request of the Glasgow Institute that the R.I.B.A. Annual Dinner shall be held this year in Glasgow. It will take place on Thursday, 3rd October. An interesting programme has been drawn up for the visit, and the Corporation of Glasgow have kindly arranged to entertain the Royal Institute at a reception on Friday evening, 4th October. The Council most earnestly hope that as many members as possible will attend, so as to ensure the success of the gathering.

The Council have had long negotiation with the London County Council with reference to the Holborn-to-Strand Improvement scheme. The correspondence, ranging from the 16th February to the 22nd June last year, is printed in the JOURNAL [Vol. VII., pp. 435-442]. With a view to securing proper architectural treatment for the Crescent site, the Council were asked by the London County Council to co-operate in a scheme whereby eight architects, four to be nominated by each body, should submit designs, on certain conditions, each architect receiving an honorarium of £150. A deputation of the Council waited on the Improvements Committee of the London County Council and protested against the proposed conditions. They suggested that there should be a competition among the eight architects, and that three should be chosen to carry out specified blocks, working together, however, as a consultative committee on the whole scheme. The interview resulted in a few modifications in the conditions as to the details of drawings required and an increase in the honorarium offered to £250. The Council were given to understand that there could be no guarantee that any of the eight architects should execute all or part of his design, and the invitation to co-operate was renewed on the slightly modified basis. Desirous of aiding the London County Council in their efforts to secure architectural treatment for the new street, the Council accepted the invitation under strong protest, and nominated four architects. Their names were Messrs. Reginald Blomfield, T. E. Colcutt, Ernest George, and R. Norman Shaw. Two of them, Messrs. Colcutt and Shaw, declined the nomination. The Council were requested to nominate two others in their place. In view of the London County Council's disregard of their protest accompanying the original nomination, the Council considered that they had gone as far as was consonant with the dignity of the Institute, and the profession which it represents, to meet the wishes of the London County Council, and formally declined to make further nominations.

Another matter to which the Council have given their attention is the alteration of the steps of St. Martin's Church. The London County Council were asked by the St. Martin's Vestry (now merged in the Council of the City of Westminster) to contribute towards the cost of the proposed alterations, which consisted in doing away with the broad platform in the middle of the flight and moving up the lower steps, thereby widening the pavement. The London County Council sought the advice of the Council of the Institute. Acting on the report of the Art Committee, the Council protested against any proposal to touch the steps, both for artistic reasons and on the ground that the traffic was not so great as to necessitate any widening of the pavement. They urged, however, should the need for widening be found imperative, and consequently the abolition of the landing on the west side, that at all events the landing on the south side should be retained for the sake of architectural proportion. The London County Council adopted the Council's view, and refused the

St. Martin's Vestry and the City of Westminster any financial assistance. In reply to a protest from the Council, the Town Clerk of Westminster replied that the work, having been already begun, must be proceeded with.

The London County Council also submitted for the opinion of the Council their draft by-laws under the Metropolitan Management Acts, as to the deposit of plans with reference to pipes, drains, and other means of connecting with sewers. The main suggestion of the Council was that, in lieu of elaborate duplicate plans and sections, which it was proposed that anyone about to construct or reconstruct drains, &c., should deposit with the sanitary authority, it would be sufficient if one carefully prepared block plan were sent.

The Council having been invited by the Bridge House Estates Committee to offer their suggestions on the proposed plans for the widening of London Bridge, referred the matter to the Art Committee, and adopted their report. While deprecating any interference at all with the structure, they suggested, in case of necessity, an alternative scheme whereby the face of the parapet should be restricted to the line of the existing piers, instead of overhanging them. The latest information received from the Corporation is that consideration of the scheme has been referred to a Sub-Committee of the Bridge House Estates Committee.

A definite suggestion as to the collaboration of Engineers and Architects having been made at the Congress last June, the Council approached the Institution of Civil Engineers on the point. The Council of the Institution courteously responded by inviting members of the Council and the Art Committee to be present at the reading of a Paper on "The Æsthetic Treatment of Bridge Structures," by Mr. J. Husband; and at the discussion thereon, which was continued at two subsequent meetings, the President and various members attended and put the views of architects on the subject before the Institution.

Adopting the Report of the Art Committee, the Council have addressed a protest to the Ecclesiastical Commissioners and the Lords of the Privy Council against the Union of Benefices Bill as drafted when introduced before Parliament last year. They urged that this Bill to extend the Union of Benefices Bill 1880 to the whole of England and Wales, should contain provisions whereby precious architectural monuments should be safeguarded against the destruction that has been permissible and practised in London under the provisions of the existing Act.

The Council adopted the Report of the Science Committee on the new regulations proposed by the London Water Companies, and sent in a protest, together with criticisms of the proposals, to the Local Government Board, by whom they were invited to send representatives to the inquiry held at the Guildhall, Westminster. Before final arrangements could be made for receiving the evidence of these representatives, the Water Companies withdrew their proposals and the inquiry terminated. The thanks of the Council are especially due to Mr. H. D. Searles-Wood for the time and trouble he devoted to the matter on behalf of the Institute.

The Council, adopting the suggestion of the Science Committee, sent out in January to the Corporation of the City of London, the London County Council, and all the new Metropolitan Borough Councils, a circular letter with reference to the administration of the various Acts of Parliament in relation to the construction, &c., of drains and sanitary appliances and the structural removal of nuisances. They suggested that the question of detection of nuisances should remain in the department of the medical officer to the authority, and that matters relating to the construction, &c., be placed in the department of the surveyor to the authority.

The Council have also adopted the Report of the Science Committee with regard to a scheme suggested by the Plumbers' Company for the hall-marking of plumbers' work, and they have arranged with the Plumbers' Company for a Conference to be held between the

Company, the Royal Institute, and the Water authorities, with a view to settle the best kinds of materials and forms of fittings used in plumbers' work, and to provide a basis for regulations on the subject.

The changes in By-laws 25, 29, and 30 were approved by the Privy Council on the 15th May 1900. The approaching elections will be conducted, therefore, under the new regulations. The total number of the Council will be 38; there will be 4 Associate members; any Associate will be eligible for election; and the asterisks against the names of members of the existing Council and Standing Committees will be omitted.

The Council regret that their negotiations with the Institute of Builders, extending over a space of two years, have come to a fruitless conclusion. After much effort, suggestions for a revised Form of Contract were agreed upon by representatives of the two Councils, and the amended clauses were printed in the JOURNAL on the agenda for the General Meeting on the 7th January. The Arbitration Clause was found, however, to be so unacceptable to the general body of members that no resolution was moved from the chair at the General Meeting. The Form was discussed, and the Chairman, on behalf of the Council, promised a revision of the Arbitration Clause before presenting it again to the Institute. The Council submitted to the Institute of Builders a revised arbitration clause in which "Clause 16" (Materials) was inserted among the clauses exempt from the operation of the Arbitration Clause. The Council of the Institute of Builders accepted this proposal on the condition of certain changes being made in Clause 16 itself, which practically rendered its inclusion among the exempted clauses nugatory. A deadlock occurred, and the Council reluctantly declined further negotiation on the subject with the Institute of Builders.

In accordance with the resolution of the General Meeting held on the 9th April last year, a joint committee of the Institute and the Surveyors' Institution have had many meetings to consider alterations in the law of Ancient Lights. This committee—which received the most valuable assistance from Mr. J. Fletcher Moulton, K.C., M.P. [H.A.], and Mr. G. Mallows Freeman, K.C.—issued a report to the Councils of the two bodies, which has been printed in the JOURNAL (Vol. VIII., pp. 107–109). The committee has been further authorised to draft a public Bill on the lines of their report, and to submit it for consideration to the two Councils. The Bill is now in the hands of a Parliamentary draughtsman.

The Institute's publication, *Suggestions for the Conduct of Architectural Competitions*, has been reissued as amended at the General Meeting on the 7th January.

The Competitions Committee have caused stamped and addressed postcards to be sent to the Hon. Secretaries of all Allied Societies, with a printed form at the back, to be filled up by them with details of any proposed competition in their districts of which they may hear. On receipt of one of these, the Secretary has instructions to write at once to the promoters, urging that the competition be conducted on the lines of the Institute *Suggestions*, a copy of which is enclosed.

The Council have renewed the representations made in 1889 to the Local Government Board concerning the Administration of Building By-laws in non-Metropolitan Districts. A deputation was received by the Parliamentary Secretary, Mr. Grant Lawson, at the Local Government Board, on the 12th March, when a draft set of By-laws for the use of Rural District Councils, drawn up by the Local Government Board, was submitted for the opinion of the Institute. The Council have forwarded to the Local Government Board the suggestions of the By-laws Committee with regard to this draft.

The Council, having learned that the University of London were about to proceed to the appointment of a Board of Studies for Fine Art (including Architecture), took measures to lay

before the authorities the desirability of the Royal Institute being specially represented on the Board. The Council are gratified to report that the choice of the Senate has fallen upon Mr. Arthur Cates, who has further been elected by his colleagues as Chairman of the Board.

The Council have reappointed Mr. Thomas W. Cutler as the representative of the Institute on the Sanitary Inspectors' Examination Board.

At the Congress of the Royal Institute of Public Health, to be held at Eastbourne in July, Mr. Herbert Spurrell has consented to represent the Institute.

Messrs. Alexander Graham and Edwin T. Hall will represent the Institute at the British Congress on Tuberculosis to be held in London this year, also in July.

At the instance of Mr. Killingworth Hedges, M.Inst.C.E., and following a suggestion made by him in his Paper on "The Protection of Public Buildings from Lightning," read before the Institute on the 23rd April 1900, the Council have aided in the formation of a "Lightning Research Committee," whose object is to tabulate information as to the destruction caused by lightning. Expert observations, exact measurements, photographs, plans, &c., will be welcomed by the Committee. Mr. John Slater and Mr. H. H. Statham represent the Council on the Committee. The other members up to the present are Major-General E. R. Festing, C.B., F.R.S., Messrs. J. Gavey, M.Inst.C.E., W. P. Goulding, F.S.I., Dr. Oliver Lodge, F.R.S., W. N. Shaw, F.R.S., A. R. Stanning, F.S.I., Arthur Vernon, F.S.I., Killingworth Hedges, M.Inst.C.E. The Council have voted a sum of £25 per annum for three years towards the expenses of the Committee. Other Societies are also lending financial aid to the scheme. Mr. John Slater is Chairman, and Mr. G. Northover is Secretary.

The Council recommend to the attention of members the Architectural Museum, Tufton Street, Westminster, which is somewhat in need of funds, for purposes of repairs, maintenance of the 4,000 casts of examples of Gothic work, and the purchase, if possible, of casts of Classic and Renaissance examples. They feel that the support of the profession at large is deserved by a most valuable institution, whose foundation and maintenance have been the devoted work of a few men. The Council have decided to make the Museum an annual grant of twenty guineas, on the condition of the Council being adequately represented on the Committee of the Museum.

The question of architects' names appearing on advertisement boards has come before the Council, and they have issued a resolution which has been printed several times in the JOURNAL and SUPPLEMENT, and in the current KALENDAR (p. 12), to the effect that the signing of an architect's name on his building is not derogatory to the profession, but that "it is undesirable for architects to place their names on boards and hoardings in front of buildings during course of construction for purposes of self-advertisement." The Council earnestly hope that members will co-operate with them in making this resolution as effective as possible.

The Council take this opportunity of drawing attention to the needs of the Architects' Benevolent Society, and express the hope that the names of more members of the Institute will appear in the list of subscribers.

The Council are much gratified in being able to draw attention to the satisfactory financial condition of the Institute. Early this year the sum of £1,050 was invested in Queensland Government 3 per cent. stock, thus bringing the total amount of the invested capital of the Institute up to £10,000. A statement of Income and Expenditure, and Balance Sheet for the year ending 31st December 1900, and an estimate of the income and expenditure of the present year are appended.

FINANCES.

The accounts of Ordinary Funds for 1900, prepared by Messrs. Saffery, Sons & Co. chartered accountants, and audited by Messrs. W. Hilton Nash [F.] and Herbert A. Satchell [A.], the Hon. Auditors appointed at the Annual General Meeting of 1900, here follow:—

Income and Expenditure Account of Ordinary Funds for the Year ending 31st December 1900.

Dr.		Exclusive of Entrance Fees and Final Examination Fees; and Subscriptions received in advance for 1901.		Cr.	
EXPENDITURE.		INCOME.			
To ORDINARY EXPENDITURE—		BY ORDINARY INCOME—			
Rent.....	£ s. d. £ s. d.	Subscriptions—	£ s. d. £ s. d.		
Gas and Electric Lighting.....	935 0 0	593 Fellows at £4. 4s.	2490 12 0		
Coals.....	20 0 0	Ditto, Arrears.....	79 16 0		
Salaries.....	1084 5 2	942 Associates at £2. 2s.	1978 4 0		
General Printing, Stationery, Stamps, and	1508 9 6	1 paid on account.....	1 1 0		
Petty Expenses.....	461 19 9	Ditto, Arrears.....	118 11 0		
Expenses of General Meetings, Exhibitions, &c.	232 2 9	49 Hon. Associates at £2. 2s.	88 4 0		
Housekeeping (including Office Attendant)...	142 14 6	Ditto, Arrears.....	6 6 0		
Advertisements in Newspapers.....	44 6 7			4762 14 0	
Examination Expenses.....	384 5 9	Dividends on Stocks and Shares —			
General Repairs.....	61 4 5	Architectural Union Co.	184 2 0		
Fire Insurance.....	20 9 7	Consols.....	52 14 2		
Medals and other Prizes.....	115 9 0	Tasmanian Government Stock.....	65 12 3		
Grant to Library.....	100 0 0	Canadian 3 per Cent.....	17 2 0		
Grant to Architectural Association.....	100 0 0	Interest on Deposit.....	33 13 6		
The JOURNAL—				381 3 11	
Reporting.....	59 17 0	Sale of Publications (other than JOURNAL			
Printing and Binding.....	621 5 7	and KALENDAR).....		219 17 3	
Illustrations.....	140 6 9	Use of Rooms—			
Addressing, Postage, and Carriage.....	236 5 6	District Surveyors' Association.....	25 0 0		
	1087 14 10	Architectural Association.....	7 0 0		
The KALENDAR —		R.I.B.A. Tenants.....	55 0 0	87 0 0	
Printing.....	133 10 8				
Postage and Carriage.....	27 3 5	Examination Fees—			
Contributions to Allied Societies.....	268 19 0	Statutory.....	30 9 0		
Miscellaneous Expenses (including Conference,		Preliminary.....	663 12 0		
Conversations, and Dinner).....	593 11 8	Intermediate.....	291 18 0		
Accountants' and Legal Charges.....	28 5 4	Final.....	137 1 0	1113 0 0	
Balance of income over expenditure.....	843 19 3	JOURNAL and KALENDAR—			
		Advertisements.....	530 0 0		
		Sales.....	94 16 0	624 16 0	
				£7158 11 2	
SAFFERY, SONS & Co.,	£7158 11 2				
Chartered Accountants.					

Examined with the several vouchers and found to be correct. 19th March 1901.

(Signed) { W. HILTON NASH [F.]
HERBERT A. SATCHELL [A.]

Dr.		Balance Sheet of Ordinary Funds, 31st December 1900.		Cr.	
LIABILITIES.		ASSETS.			
To Sundry Creditors outstanding.....	£ s. d. £ s. d.	By Cash at Bank.....	£ s. d. £ s. d.		
To Examination Fees anticipatory of election.....	216 4 9	By Investments* :—	1186 3 10		
To Subscriptions for 1901 received in advance.....	136 12 0	Architectural Union Co., 263 Shares ...	3643 1 0		
To Accumulated Fund—	103 16 0	Consols 2½ per Cent. £2000.....	2037 17 5		
Surplus of Liquid Assets over Liabilities as per last Balance Sheet ...	9115 10 10	Tasmanian Government 3½ per Cent. Stock £1896 8s. 9d.	2050 0 0		
Add Entrance Fees received in 1900.....	226 16 0	Canadian Government 3 per Cent. Registered Stock £1200.....	1219 11 0		
Arrears for 1900 (as per contra).....	202 13 0			8950 9 5	
	9544 19 10	By Debtors.....		152 1 8	
		By Subscriptions in Arrear 1899.....	60 7 6		
		Ditto 1900.....	202 13 0	263 0 6	
Less Arrears included in 1899 account since received or cancelled.....	£276 1 0				
Fittings bought.....	19 15 5	* Total Investments in 1899 ...	£ s. d. 7730 18 5		
	295 16 5	Additions in 1900, viz.—			
		£1200 Canadian 3 per Cent. Registered Stock cost.....	1219 11 0		
Balance of Income over Expenditure in 1900.....	9240 3 5	Total Investments as above.....	8950 9 5		
	843 19 3			£10551 15 5	
	10093 2 8				
SAFFERY, SONS & Co.,	£10551 15 5				
Chartered Accountants.					

Examined with the several vouchers and found to be correct. 19th March 1901.

(Signed) { W. HILTON NASH [F.]
HERBERT A. SATCHELL [A.]

The Revenue Account and Balance Sheet of Trust Funds for the year 1900, audited by Messrs. W. Hilton Nash [F.] and Herbert A. Satchell [A.], here follow:—

Revenue Account of Trust Funds for the Year ended 31st December 1900.

Dr.		Cr.	
ASHPITEL PRIZE FUND:—			
To Cost of Ashpitel Prize	£ s. d. 10 0 0	By Balance from last Account	£ s. d. 18 12 0
To Balance carried forward	22 12 0	By Dividend on 20 Shares, Architectural Union Co., at 14s. per share	14 0 0
	<u>32 12 0</u>		<u>32 12 0</u>
CHARITABLE FUND:—			
To Cash paid Architects' Benevolent Society	5 5 0	By Balance from last Account	1 1 8
To Balance carried forward	1 2 6	By Dividends on £200 10s. 2½ per Cent. Consols	5 5 10
	<u>6 7 6</u>		<u>6 7 6</u>
DONALDSON TESTIMONIAL FUND:—			
To Cost of Medals	2 15 0	By Balance from last Account	0 11 0
To Balance carried forward	0 11 5	By Dividends on £72 L. & N.W. Railway 4 per Cent. Preference Stock	2 15 5
	<u>3 6 5</u>		<u>3 6 5</u>
GODWIN BURSARY:—			
To Cash paid Bursar 1899, 2nd instalment [E. W. Wonnacott]	20 0 0	By Balance from last Account	51 9 5
To Cost of Medal	1 17 6	By Dividends on £1030 Caledonian Railway 4 per Cent. Debenture Stock	39 8 8
To Balance carried forward	69 0 2		
	<u>90 17 8</u>		<u>90 17 8</u>
GRISSELL LEGACY:—			
To Cost of Medal	9 18 0	By Balance from last Account	10 9 4
To Balance carried forward	16 12 11	By Dividends on £300 Great Indian Peninsula Railway 5 per Cent. Stock	16 1 7
	<u>26 10 11</u>		<u>26 10 11</u>
LIBRARY FUND:—			
To Purchase of Books, Binding, &c.	98 3 8	By Balance from last Account	20 8 2
To Printing, Stationery, &c.	9 19 0	By Annual Donation from Mr. Sydney Smirke	5 0 0
To Petty Expenses	1 9 1	By Annual Grant from Ordinary Funds	100 0 0
To Balance carried forward	59 3 6	By Donation from Architectural Union Company	50 0 0
	<u>168 15 3</u>	By Donation from Mr. S. F. Bartleet	4 4 0
		By Donation from Mr. Clyde Young	1 1 0
		By Entrance Donation 2 Hon. Associates	4 4 0
		By Fines (Loan Library)	3 18 0
			<u>168 15 3</u>
OWEN JONES STUDENTSHIP:—			
To Cash paid Student 1899, 1st instalment [J. Stewart] ..	50 0 0	By Balance from last Account	187 5 0
To Cash paid Student 1900, 1st instalment [G. A. Paterson]	50 0 0	By Dividends on £2128 Midland Railway 2½ per Cent. Debenture Stock	51 4 1
To Balance carried forward	191 7 10	By Dividends on £1100 Great Western Railway 5 per Cent. Consolidated Stock	52 18 9
	<u>291 7 10</u>		<u>291 7 10</u>
PUGIN MEMORIAL FUND:—			
To Cash paid Student 1899 [J. H. Rutherford]	40 0 0	By Balance from last Account	6 19 4
To Cost of Medal	1 9 6	By Dividends on £1070 L. & N.W. Railway 4 per Cent. Preference Stock	41 8 10
To Balance carried forward	6 18 8		<u>48 3 2</u>
	<u>48 3 2</u>		
TITE LEGACY FUND:—			
To Cash paid Prize-man 1900, 1st instalment [Percy E. Nobbs]	20 0 0	By Balance from last Account	7 8 6
To Balance carried forward	17 14 8	By Dividends on £1150 2½ per Cent. Consols	30 6 2
	<u>37 14 8</u>		<u>37 14 8</u>
TRAVELLING FUND:—			
To purchase of £30 Madras Railway 4½ per cent. Stock at 128	37 9 2	By Balance from last Account	7 18 8
To Balance carried forward	10 2 11	By Dividends on £920 Madras Railway 4½ per Cent. Stock	39 18 5
	<u>47 12 1</u>		<u>47 12 1</u>

Examined with the several vouchers and found to be correct. 19th March 1901.

(Signed) { W. HILTON NASH [F.],
HERBERT A. SATCHELL [A.].

X X

Dr.	Balance Sheet of Trust Funds, 31st December 1900.	Cr.	
To ASHPITEL PRIZE FUND:—	£ s. d.	£	
Capital—20 Shares in the Architectural Union Company, Limited, at £14 per Share	280 0 0	By Government and other Securities for total value of Trust Funds invested	2815 11
Balance at credit of Revenue Account	22 12 0	By Cash in hands of Bankers	295 1
To CHARITABLE FUND:—			
Capital—£200 10s. 2½ per Cent. Consols	195 14 9		
Balance at credit of Revenue Account	1 2 6		
To DONALDSON TESTIMONIAL FUND:—			
Capital—£73 L. & N.-W. Railway 4 per Cent. Preference Stock	89 0 0		
Balance at credit of Revenue Account	0 11 5		
To GODWIN BURSARY FUND:—			
Capital—£1030 Caledonian Railway 4 per Cent. Debenture Stock	1344 13 6		
Balance at credit of Revenue Account	60 0 2		
To GRISSELL LEGACY FUND:—			
Capital—£300 Great Indian Peninsula Railway 5 per Cent. Guaranteed Stock	513 14 10		
Balance at credit of Revenue Account	16 12 11		
To LIBRARY FUND:—			
Balance at credit of Revenue Account	59 3 6		
To OWEN JONES STUDENTSHIP:—			
Capital—£2128 Midland Railway 2½ per Cent. Debenture Stock	£ s. d. 1773 0 0		
£1100 Great Western Railway 5 per Cent. Consolidated Stock	1900 12 0		
Balance at credit of Revenue Account	3673 12 0		
To FUGIN MEMORIAL FUND:—			
Capital—£1070 L. & N.-W. Railway 4 per Cent. Preference Stock	1342 12 6		
Balance at credit of Revenue Account	6 13 8		
To TITE LEGACY FUND:—			
Capital—£1150 2½ per Cent. Consols	1109 1 6		
Balance at credit of Revenue Account	17 14 8		
To TRAVELLING FUND:—			
Capital—£950 Madras Railway 4½ per Cent. Stock	1267 2 6		
Balance at credit of Revenue Account	10 2 11		
	£10210 13 2		£10210 13 2

Examined with the several vouchers and found to be correct. 19th March 1901.

(Signed) { W. HILTON NASH [F.].
HERBERT A. SATCHELL [A.]

SCHEDULE OF PROPERTY.

	£	s.	d.	£	s.	d.
Furniture as per last year's Schedule	2558	17	5			
Additions in 1900	19	15	5			
	2578	12	10			
Less Depreciation	64	9	4			
				2514	3	6
Printed Books				4000	0	0
Oil Paintings				1800	0	0
Lithographs, Prints, &c.				400	0	0
Water-colours				800	0	0
Models, Plaster Busts, &c.				140	0	0
Marble Busts				180	0	0
				<u>£2804</u>	<u>3</u>	<u>6</u>

The Council submit an Estimate of Income and Expenditure of Ordinary Funds for the twelve months of 1901, exclusive of Entrance and Final Examination Fees.

Estimate of Income and Expenditure for Year ending 31st December 1901.

EXPENDITURE.	£	s.	d.	INCOME.	£	s.	d.
Rent, Lighting, and Warming	1050	0	0	Subscriptions and Arrears	4800	0	0
Salaries	1480	0	0	Dividends on Stocks and Shares and Interest on Deposits Account	380	0	0
General Printing, Stationery, Postage, and Petty Expenses	500	0	0	Sale of Publications (other than JOURNAL and KALENDAR) JOURNAL and KALENDAR —	225	0	0
General Meetings, Exhibitions, &c.	225	0	0	Sales	100	0	0
Housekeeping (including Office Attendant)	145	0	0	Advertisements	530	0	0
Advertisements	45	0	0	Use of Rooms	85	0	0
Examination Expenses	125	0	0	Examination Fees—			
General Repairs	60	0	0	Statutory	20	0	0
Fire Insurance	20	0	0	Preliminary	660	0	0
Medals and other Prizes	305	0	0	Intermediate	300	0	0
Grant to Library	100	0	0	Final (Extra Fees)	130	0	0
Grant to Architectural Association	100	0	0				
JOURNAL	1060	0	0				
KALENDAR	165	0	0				
Contributions to Allied Societies	275	0	0				
Miscellaneous Expenses (including Dinner)	100	0	0				
Legal and Accountants' Charges	75	0	0				
Estimated Balance of Income over Expenditure	1100	0	0				
	<u>£7230</u>	<u>0</u>	<u>0</u>				<u>£7230</u>
							<u>0</u>

REPORT OF THE ART STANDING COMMITTEE.

The Art Standing Committee report that six meetings have been held during the Session. Mr. Alfred Waterhouse, R.A., LL.D., was re-elected Chairman; Mr. Macvicar Anderson, Vice-Chairman; and Messrs. E. W. Mountford and H. T. Hare were reappointed Hon. Secretaries.

Union of Benefices Bill.—The Committee had under consideration the proposed extension of this Act so as to embrace the whole of England and Wales, and made a recommendation to the Council on the subject.

St. Martin's-in-the-Fields.—The Committee, at the invitation of the London County Council, carefully considered the proposed alteration of the steps of this church, and strongly urged that no alteration appeared necessary or desirable. Resulting from this the County Council declined to contribute to the proposed alteration, and though the reconstruction is taking place, the original intention has been modified in some particulars in accordance with the suggestions of the Committee.

The Widening of London Bridge.—By the invitation of the Bridge House Estates Committee, the Art Committee considered the designs for this work, and recommended several modifications in the details.

The following subjects were also discussed by the Committee:—The Co-operation of Architects and Civil Engineers; Aylesford Bridge; Additions to the Law Courts; Police Station in Hyde Park; Whitgift Hospital, Croydon; and the restoration of Iona Cathedral.

REPORT OF THE LITERATURE STANDING COMMITTEE.

The Literature Standing Committee report that since the election of the present Committee, on the 16th June 1900, the Committee have held seven meetings.

At the first meeting Mr. R. Phenè Spiers was appointed Chairman; Mr. H. Heathcote Statham, Vice-Chairman; and Messrs. Arthur S. Flower and Leslie Waterhouse, Hon. Secretaries.

The following Papers, arranged for by the Committee, have been read:—"Architectural Results of the Latest Excavations in the Forum at Rome," by Comm. Rodolfo Lanciani, D.C.L.Oxon. [*Hon. Corr. M.*], on 12th November 1900; "A Review of the Tendencies of the Modern School of Architecture," by Professor Beresford Pite [*F.*], on 17th December; "Difficulties and Hindrances in Producing Good Modern Architecture," by J. J. Stevenson [*F.*], F.S.A., on 21st January 1901; "Asylums and Asylum Planning," by George T. Hine [*F.*], on 18th February; "The Art of Pictorial Mosaic," by C. Harrison Townsend [*F.*], on 18th March; "The Classification of Romanesque Architecture," by Francis Bond, M.A. [*H.A.*], on 22nd April. The following Papers have been arranged for subsequent dates:—20th May, "The Sources and Growth of Architecture in Egypt," by Professor W. M. Flinders Petrie; 17th June, "Education in Building," by Professor W. R. Lethaby.

The Committee desire to acknowledge their indebtedness to the authors of the various articles and reviews contributed to the JOURNAL during the past year.

The Council having referred to this Committee the question of the re-hanging of the portraits of Past-Presidents in the Meeting-room, in order to provide additional accommodation, a sub-committee was appointed to deal with the matter.

The Committee of the Glasgow International Exhibition 1901 having invited the

Institute to send a selection of drawings, &c., from their collections, a sub-committee consisting of Messrs. J. D. Crace, Alex. Graham, and R. Phenè Spiers, appointed to make the necessary selection, have made their report to the Council.

A donation of £30 received from the Architectural Union Company for the purchase of books has already been expended.

Since the date of the last Report, eleven original drawings, attributed to Inigo Jones, have been discovered by the Librarian in the collection of the late Anthony Salvin. These have been carefully mounted under the direction of Mr. R. Phenè Spiers.

The Librarian reports to the Committee as follows:—

During the twelve months ending on the 31st March of the present year 139 volumes and 28 pamphlets have been added to the Library of the Royal Institute, exclusive of periodicals, reports, and transactions of Societies, and parts of works issued in serial form.

The number of works presented to the Reference Library was 54.

The works purchased comprise 85 volumes, out of which 34 volumes were added to the Loan Library.

The attendances of readers and borrowers during the year numbered 5,401 (in 1899-1900, 4,971), the number of works issued on loan being 1,793 (in 1899-1900, 1,447), 52 volumes having been issued to Fellows, 228 to Associates, 542 to Students, 608 to Probationers, 362 to Ticket Holders, and 1 to an Honorary Associate.

DATE	DAY ATTENDANCES. 10 a.m. to 5 p.m.					EVENING ATTENDANCES. 5 p.m. to 8 p.m.					Books issued on Loan.
	Members.		Non-members.		Total.	Members.		Non-members.		Total.	
	Library.	Periodicals only.	Library.	Periodicals only.		Library.	Periodicals only.	Library.	Periodicals only.		
1900.											
April	43	5	120	2	170	35	7	67	9	118	120
May	68	8	139	10	225	39	3	81	8	131	163
June	48	5	86	3	142	26	4	70	5	105	109
July	61	6	69	3	139	30	2	40	8	80	100
August	Reference Library closed.					Reference Library closed.					41
September	55	8	119	6	188	25	5	60	12	102	133
October	60	7	147	8	222	48	9	117	11	185	221
November	75	7	134	8	224	31	4	100	11	146	187
December	59	10	113	8	190	33	9	73	15	130	140
1901.											
January	89	7	111	11	218	47	5	110	16	178	212
February	46	22	105	14	187	33	18	85	27	163	188
March	69	18	98	20	200	43	14	88	20	165	179
TOTAL .	673	103	1236	93	2105	390	80	891	142	1503	1793

During the last few years there has been a notable increase in the number of volumes issued on loan, the number in 1896 being 830 as against 1,793 shown by the table of statistics appended.

Country members, it may be noted, have not availed themselves as largely as was hoped of the privileges accorded them in the use of the Loan Library, only 27 volumes having been issued through the post.

The number of tickets issued for admission to the Library other than to members of the Institute or to Students and Probationers was 61.

Donations of books have been received during the year from Mr. Andrew Oliver [A.], Mr. Otto Wagner [Hon. Corr. M.], Mr. Hermann Muthesius, Mr. F. Colyer, Mr. Benjamin Ingelow [F.], Mr. W. H. St. John Hope, and Mr. H. Percy Adams [F.].

A donation of 30*l.* from the Architectural Union Company enabled the Committee to purchase the following important works: Defrasse and Lechat's *Epidaure*, Junghändel's *Die Baukunst Spaniens*, Palustre's *La Renaissance en France*, and *Les Grands Prix de Rome d'Architecture de 1850 à 1900*.

These and other notable acquisitions have been duly notified from time to time in the Supplement to the JOURNAL.

PROPORTION OF BOOKS ISSUED ON LOAN TO MEMBERS, ETC.

	Hon. Assoc.	Fellows.	Associates.	Students.	Probationers.	Ticket Holders.	Total.	Sent through Post.
1900.								
April	—	2	14	45	46	13	120	4
May	—	1	25	48	63	26	163	4
June	—	5	11	50	32	11	109	4
July	—	3	14	24	41	18	100	1
August	1	1	7	13	11	8	41	1
September	—	6	11	40	45	31	133	1
October	—	5	16	64	80	56	221	2
November	—	2	21	54	74	36	187	0
December	—	3	14	30	40	53	140	0
1901.								
January	—	12	31	56	61	52	212	3
February	—	7	32	59	65	25	188	3
March	—	5	32	59	50	33	179	4
TOTAL	1	52	228	542	608	362	1793	27

REPORT OF THE PRACTICE STANDING COMMITTEE.

The Practice Standing Committee report that the usual monthly meetings of the Committee have been held.

Mr. J. Douglass Mathews, Chairman, Mr. S. Flint Clarkson, Vice-Chairman, and Mr. J. Osborne Smith and Mr. C. H. Brodie, Hon. Secretaries, were all re-elected.

Mr. Thos. Harris, an old member and a previous Vice-Chairman, died early in the Session, and the Committee expressed to his family their regret and condolence.

Questions were submitted to the Committee and answered as to the powers of authorities under local by-laws, and as to architects taking out quantities.

The Committee carefully considered the City of London (Various Powers) Bill 1900, and sent recommendations thereon to the Council, which were communicated to the City Corporation.

The Committee also had before them a long Report from the London Chamber of Commerce on the Factory and Workshops Bill 1900. After long consideration a Report was sent to the Council, who were asked to forward it to the Chamber of Commerce and the Home Secretary. The Bill was eventually withdrawn by the Government.

The severe and often unfair taxation of costs by Taxing Masters was brought to the notice of the Committee, who recommended the Council to bring the Institute Schedule of Charges to the notice of the proper chief authority. On the advice of the Institute's solicitors a communication and Schedule were sent to the Lord Chancellor and duly acknowledged.

The proposed modifications of the Conditions of Contract issued by the Council were considered and a resolution thereon sent to the Council objecting to the proposed arbitration clause. The Committee again called the attention of the Council to the case of *Dodd v. Churton* and its bearing on the time clause in all contracts.

The Committee noticed with satisfaction that the Joint Committee of the Institute and Surveyors' Institution on the subject of "Ancient Lights"—which was appointed at the instance of this Committee—had issued a Report. Two members of the Practice Committee sat on the Joint Committee.

As anticipated in the Committee's last Report, the revision of the Institute pamphlet on "Dilapidations" has been found to necessitate the creation of virtually a new book. This

has been divided into chapters, each under a definite heading. Several of these chapters are completed and the remainder are in hand. The Committee hope to send the new book in proof to the Council before the end of this Session.

REPORT OF THE SCIENCE STANDING COMMITTEE.

The Science Standing Committee report that they have held five meetings since the publication of the last Annual Report, with an average attendance of nine members.

Mr. Thomas Blashill was appointed Chairman, Mr. Lewis Angell, Vice-Chairman, and Mr. H. D. Searles-Wood and Mr. Max. Clarke, Hon. Secretaries.

The results of the experiments for the purpose of ascertaining the strength of different kinds of brickwork will, it is hoped, shortly be issued in pamphlet form.

With a view to settling definitely the question of standardising the size of bricks, a conference between the Joint Committee of the Royal Institute of British Architects, the Institution of Civil Engineers, and the Clay Workers' Association was held on the 26th April.

At the request of the University of California, Berkeley, U.S.A., whose College of Chemistry has arranged a special course on the Chemistry of Structural Materials, specimens of stone, brick, and mortar of known age, ancient as well as modern, were collected and forwarded to the College, and the results of the analyses will be duly communicated to the Institute.

The Committee have reported to the Council on the proposal of the Plumbers' Company to mark plumbers' work and materials for the purpose of identification, and this Report has been forwarded to the Plumbers' Company, who are taking steps to carry out its suggestions.

The Committee recommended the Council to communicate with the Corporation of the City of London, the London County Council, and the new Metropolitan Borough Councils, making suggestions for modifications in the administration of the various Acts of Parliament in relation to the construction of drains.

The supporting power of rocks and soils is still under inquiry. The Committee are collecting particulars from various sources.

The Report of the Committee on the water companies' proposed new regulations was forwarded by the Council to the Local Government Board, and Messrs. Thomas Blashill, H. D. Searles-Wood, and Max. Clarke were deputed by the Council to represent the Institute at this inquiry. Several of the meetings were attended, and arrangements were made for giving evidence in support of the Institute Report with the London County Council, but owing to the withdrawal of the proposal by the water companies the witness was not called.

REPORT OF THE HON. AUDITORS.

To the President and Council of the Royal Institute of British Architects,—

We have the pleasure to report that we have carefully audited the Accounts of the Royal Institute for the past year, and have checked the vouchers and receipts with the books, and we are able to state that the books have been accurately and neatly kept.

The funds of the Institute appear to be in a satisfactory condition, and an addition of £1219. 11s. has been made during the year to the invested Capital, thereby raising its amount from the sum of £7,780. 18s. 5d. to a total of £8,950. 9s. 5d.

With regard to the Revenue Account, the net profit amounts to £848. 19s. 8d. This surplus, which exceeds the estimate by £48. 19s. 8d., would have been still larger had it not been that the expenses attendant on the Conference and Conversazione exceeded the amount anticipated. The great success of the latter function leads us to express the hope that the President and Council will see their

way to repeat it in the near future, as a reunion of this kind cannot fail to draw architects closer together.

No valuation having been made of the furniture, books, and pictures since 1894, while since that time considerable additions have been made to the Library, and three valuable pictures have been acquired, we are of opinion that some steps should be taken to put the valuation on a more reliable basis.

We beg once more to repeat the recommendation which has been made in previous years, but hitherto without avail, that a Building Fund should be formed, and that additions should be made to it out of each year's surplus revenue. The increasing importance of the Institute must in time, we venture to think, make it incumbent for the Members to have a suitable building of their own, and we further consider that were such a fund once established it might expect to receive considerable support from Members desirous of leaving money to the Institute.

We would also venture to recommend the revival of the former custom, that every new Member should be expected to give a contribution to the Library, or, as has been previously suggested, to the funds of the Benevolent Society.

In conclusion, we may congratulate the Institute on the state of its Finances, and trust that the good progress made in the past may be continued in the future.

March 1901.

(Signed)

{ W. HILTON NASH.
{ HERBERT A. SATCHELL.

DISCUSSION OF THE ANNUAL REPORT.

The President, Mr. WM. EMERSON, in the Chair.

The PRESIDENT, prior to moving the adoption of the Report, briefly referred to some of the chief matters noted therein—viz. the death of the Patron of the Institute, Queen Victoria, the continuance of the Royal patronage and grant of the Gold Medal for Architecture by His Majesty the King, the Architectural Congress, and the evidences the Report contained of the very considerably extended influence of the Institute. The Institute's voice, for example, had been felt in regard to metropolitan improvements, to hygienic and sanitary matters, and also in regard to Government affairs in connection with public buildings. The Institute had kept its eye on most of the competitions that had been publicly advertised or privately instituted, and in many cases had communicated with their promoters—generally with beneficial results as regards conditions and as to obtaining assessors. Of course, in regard to competitions for public buildings, members of the Institute were perfectly within their rights in expressing their opinion and offering suggestions or protests as to whether a private or public competition should be held. Whether such discussions tended to the dignity of the Institute was a matter on which he would say nothing; but at the Meeting on the previous Monday a letter had been read, and since published in the building papers, on which, in the interests of the profession, he must make some comment. The letter was from Mr. Nicol, of Birmingham, and after referring to the subject of the Meeting, it went on to ask "whether they (the Council) are prepared to support the general principle of competition amongst architects or otherwise when asked to advise or express an opinion to public bodies. Also whether they are prepared to support and actively assist the Birmingham Architectural Association in their present endeavour to induce the Council of the New University to reconsider their decision with respect to the appointment of Messrs. Webb and Bell as architects for the proposed Technical Buildings at Birmingham." He (the President) could not help expressing his very great regret that any member of their profession should have indited a letter with such a clause as that in it. He did not know the facts, but he

sincerely hoped that it was not true that the Birmingham Architectural Association were taking any such step, but that Mr. Nicol was expressing simply his own opinion, and not that of his Society. Surely everyone would agree that the most honourable way for a man to obtain work in their profession was that when he had done work for certain people, and they were pleased with it, they should ask him to undertake other work for them. That was exactly what had occurred in the Birmingham case—so much of the details he knew. A member of the Government who had to do with a building on which Mr. Webb had been employed was so satisfied with the way it was carried on that he asked him to undertake the work. Mr. Webb, he believed, stated that he would willingly do so if Mr. Bell were associated with him in the work, and this the authorities agreed to. There had been in existence, he believed, for many years, a code of etiquette as regards their relations with their professional brethren, and when a man had been employed to do work it had been considered a dishonourable action to try by underhand or other means to wrest that work out of his hands. If the writer of that letter correctly represented the views of the Birmingham Association—and he (the President) could not for a moment imagine that he did—then it would lead to the most unprofessional method of dealing that he had ever heard of. It was conduct that was entirely reprehensible, and to set in motion the machinery of a Society in that way was simply working in the very worst form of trades unionism. He could not suppose for an instant that the statement was correct. As regards the last question put in the letter, he could answer it emphatically for the Institute, and for their Council and President, that they would never lend themselves to any such action.

The PRESIDENT then formally moved the adoption of the Report, which was seconded by Mr. EDW. A. GRUNING, *Vice-President*.

Mr. WILLIAM WOODWARD [A.] said he had a few observations to make upon the Report, as he had been privileged to do for some years past. First, he would ask whether

there was any other reason for the non-award of the Gold Medal than the circumstance of Her late Majesty's death: the statement in the Report left it open to the suggestion that that was not the only reason.

The PRESIDENT explained that as the Medal was Her Majesty's personal gift, they were not in a position to award it on her decease, and they could not move in the matter until the King consented to continue the presentation.—The SECRETARY also stated that he had been informed unofficially that in view of the sudden heavy pressure of affairs it was desirable not to apply for the Medal this year.

Mr. WOODWARD, continuing, and referring to the number of members, said that as regards the more important body—the Fellows—of the Institute, they must all regret that there was only an addition of one on the numbers of the year. The reason given by the Council for so small an increase was that it was owing to the unusually heavy losses by death, resignation, transference to the class of Retired Fellows, and other removals from the list. That, he considered, was not the real reason. It was rather to be found in the general apathy and indifference as regards the Institute of a very large majority of its members. That apathy did not prevail in its sister institution in Great George Street. There the accession of members, the deep interest taken in the papers, and the activity of every member in doing what he could to further the interests of their institution, must be due to something more than the ordinary work of an institution—it must be due to the fact that the Council of that body were men in active professional practice, and therefore aware of the difficulties and trials attached to the work of a surveyor or an architect practising in London or the provinces. There were, of course, members of the Institute Council in active practice who no doubt did confer considerable benefit upon members: but there were others not in active practice who still remained on year after year. No doubt the answer to that was that members had it in their power to substitute for the present Council one of their own choosing. But there were difficulties in the way; indeed, members were too apathetic to move in the matter. Until there was a remodelling of a very large proportion of the Council, this apathy and indifference would continue. Passing to page 57, the Report said, "The Council have pleasure to record the fact that the President, Mr. William Emerson, is a member of the Advisory Sub-Committee of the General Committee on the question of the National Memorial to Her late Majesty." There were also other references to the work of the President. He was quite sure he should have the entire concurrence of the Meeting when he said that there had never been a President of the Institute who would have taken more trouble and labour to bring to a successful issue so important an undertaking as the Congress of Architects held in London last year than the gentleman who now occupied the Chair. He had been indefatigable in his labours, and had done his best; and it was owing to his hard work and ability, his *bonhomie* and good-nature, that the Congress and Conversazione and other meetings had been made such successful events. With reference to the National Memorial to Queen Victoria, it had been said that it was an undignified proceeding to call in question the position of this Sub-Committee; that it could not be expected that a member of that Sub-Committee would make public the reason which guided him in arriving at the decision to select five architects to submit designs, instead of advising that the Memorial should be thrown open to public competition.

The PRESIDENT advised the speaker to be accurate. By using the words "which guided him," the speaker seemed to be under the impression that he (the President) was solely responsible for what happened on these committees. No one man could have a controlling voice in a committee.

Mr. WOODWARD, continuing, said that although the Pre-

sident was only one member of the Committee, he had the power to urge his views; and members naturally desired to know whether his voice was raised with sufficient force in favour of the open competition as against the limited one of five architects. But, leaving the President alone, he would come to the action of the Council of the Institute in the matter. The Council were not members of the Sub-Committee, and so were not bound to secrecy or any particular line.

The PRESIDENT ruled that Mr. Woodward was open to criticise his (the President's) action in the matter as much as he pleased; but the Council had had nothing whatever to do with it. The speaker must confine himself to the clause he was discussing in the Report.

Mr. WOODWARD said he would leave the matter in deference to the President's ruling. He hoped to have another opportunity of referring to it. On page 58, on the question of the Strand Improvement, it appeared that the proceedings of the Council had resulted altogether in failure and fiasco. From what he understood of what had taken place at the Council of the Institute and the London County Council, he gathered that some far better result should have been attained than that actually arrived at. That led him to think that the Council of the Institute or the gentlemen who went to Spring Gardens were not the men to carry the matter through to the successful issue which the London County Council desired. With regard to St. Martin's Church, it seemed that the Council had as usual kept everything to itself till the matter was either finished or spoilt. The Institute did protest against any proposal to touch the steps of St. Martin's Church, both for artistic reasons and on the ground that the traffic was not so great as to necessitate any such interference. The Art Committee, who dealt with this subject, never seemed to have taken the trouble to even inspect the designs of the authorities. Some members had taken very great interest in St. Martin's Church, and happened to know the intention of the architect, which certainly did not result in what was seen to-day. No intimation, however, was given to the General Body of the action of the Council, but the Art Committee communicated their views to the London County Council, and he understood that what they saw now at St. Martin's Church was the result of this action of the Art Committee. Had the Art Committee objected to any alteration whatever, and declined to lend themselves to shifting the landing, the Committee would have done very good service. However, the London County Council and St. Martin's Vestry had disregarded the views of the Institute, and adopted a modified scheme, which would not have been carried out had the Royal Institute as a general body—not merely three or four members of the Art Committee—entered its protest against the alteration, as it should have done on such an important matter. Mr. Woodward, continuing, with regard to the Bridge House Estates Committee and the plans for widening London Bridge which the Art Committee had reported on, said members would like to know what the effect of that Report was, and not be kept in the dark until it was too late for any member of the Council to move. Such reports should be published in the JOURNAL, and should not be kept back until the matter was entirely completed. As regards the protest against the Union of Benefices Bill and the reference to safeguarding precious architectural monuments in London against destruction, it would have been interesting if instances had been given of cases of such destruction in London. With regard to the water companies, the action of the Institute on that subject was wholly to be commended. It was not stated what the Institute had done, but, as the measure was withdrawn, no doubt some good suggestions were made, and the result was most satisfactory. Further on the Report stated that the Council had adopted the Report of the Science Committee with regard to a scheme

suggested by the Plumbers' Company. He asked that that Report should be published. [The SECRETARY stated that the Report of the Science Committee was practically embodied in the paragraph Mr. Woodward was referring to.] Continuing, Mr. Woodward congratulated the Institute on its financial condition. If they could only get rid of the apathy and indifference he had referred to, the balance shown would have been vastly increased. Discussing the Reports of the Standing Committees, Mr. Woodward referred to the clause in the Practice Committee's Report: "Questions were submitted to the Committee and answered as to the powers of authorities under local by-laws and as to architects taking out quantities." It would have been interesting to know what the Practice Standing Committee's views were about architects taking out quantities. At all events the Institute, he thought, should deprecate in the strongest manner any architect in London, a member of the Institute, taking out quantities for his own building. Another good thing the Institute had done was in reference to the taxation of costs by Taxing Masters. An architect or a surveyor, however eminent, was only allowed by the Taxing Master one guinea a day. Of course it was perfectly within the power of architects to arrange for an additional fee; but still the action of the Institute in this matter would lead to very good results. As regards the Conditions of Contract, annually, for something like fifteen years, they had had to discuss these conditions. Why the original conditions which were agreed to by the Builders were set aside by the Institute was a mystery to him. Those conditions had met every point that had ever arisen in his practice, and that of many of his brethren, in regard to disputes between builder and architect. These fresh conditions, as he had often said before, would not be signed by any high-class, respectable contractor, and it had come to his ears since that he was absolutely accurate in that statement. In the *Supplement* dated 24th November 1900 there was a notice in these words: "At the same meeting the Chairman to move the adoption of Amendments to 'the Form of Agreement and Schedule of Conditions for Building Contracts' as agreed upon between the Council of the Royal Institute and the Council of the Institute of Builders." A more extraordinary occurrence never took place than happened when members were asked to come and discuss those amendments. The very essence of the alteration agreed upon and urged time after time was this: that they must do nothing to interfere with the absolute control which the architect must always have over materials and workmanship. The Council of the Institute were either oblivious of Clause 16 or they were practically giving the members of the Institute away, because he had excellent authority for saying that the Institute of Builders were never desirous to evade the obligations under that clause; they were perfectly willing to leave to the architect the absolute control of the materials. Yet the Council of the Institute agreed with the Institute of Builders to take away from architects the power they had under the old conditions, and left in the hands of the arbitrator all the question of materials and work. Surely that was an extraordinary state of things. In the Report of the Science Standing Committee it was stated that "the report of the experiments for the purpose of ascertaining the strength of different kinds of brickwork would, it was hoped, shortly be issued in pamphlet form." That question of the strength of brickwork had been before the Institute for years. Surely something might be done to hasten the publication. In conclusion, Mr. Woodward referred to the scanty attendance of members at this their Annual General Meeting. That was due to want of confidence in the Council. He ventured to say that if some of his brother Associates and himself had the time to put this properly before members they would easily

regenerate the Royal Institute, and make it the body which it ought to be.

Mr. H. HARDWICK LANGSTON, referring to the Strand Improvement Scheme, asked why the Council considered that it was not consonant with the dignity of the Institute to make further nominations, when requested to do so by the London County Council, seeing that two out of the four the Council had nominated had declined the nomination.

The PRESIDENT stated that the Council nominated a certain number, with a remonstrance as to conditions. The County Council paid no attention to that remonstrance, and, two of the nominees declining, the County Council asked them to nominate two more. But the Council considered they had done quite enough. He for one was exceedingly sorry that anything was done.

Mr. LANGSTON said that the County Council had modified their conditions in one point at least—viz.: by increasing the honorarium to £250. As regards the London Bridge recommendation by the Art Committee: one thing they appeared to have ignored—viz., the principle of utility. They objected to the parapet projecting beyond the line of the existing piers. But they must remember that hundreds of thousands more crossed that bridge now than in the days when it was built, and something must be done for the convenience of the public, for whom the bridge was constructed.—Mr. Langston went on to refer to the statement in the Report that Mr. Spurrell had been appointed to represent the Institute at the Congress of the Royal Institute of Public Health, contending that, as the appointment had not been made or ratified by the Institute, he could not be said to represent the Institute; that he had been appointed by the Council, and therefore represented the Council. This principle was admitted by the Council lower down in the Report in connection with the grant to the Tufnell Street Museum. He moved that the Report be amended in that respect. As regards the Council's resolution about architects' names appearing on advertisement boards, he saw nothing derogatory in an architect's name appearing on a board in front of his building. It was not necessarily put there for the purposes of "self-advertisement." It was for the purpose of showing the public that architects were required for their great buildings, and if it were more the practice architects would be more often employed; moreover, the Council itself resorted to advertising, as witness the back page of their Annual Report, also the JOURNAL.

Mr. E. W. HUDSON [A.] seconded, and Messrs. Woodward and Lacy W. RIDGE supported the amendment proposed by Mr. Langston as to the substitution of the words "representative of the Council" for "representative of the Institute."

Mr. EDWIN T. HALL [F.] submitted that the appointment by the Council of a person to represent the Institute, and the application by the Council of moneys of the Institute for the purpose referred to, were a perfectly legitimate exercise of the powers of the Council under the Charter and By-laws. The clauses of the Charter bearing on the matter were cited by Mr. Hall, and the material parts read as follows:—

16. The Council shall . . . have the sole management of the income of the Royal Institute, and also the entire management and superintendence of all the other affairs and concerns thereof. . . .

17. The Council may . . . apply the funds of the Royal Institute in furthering professional education, . . . and in extending and improving the Library, Museum, and Collections, and for other purposes connected with Architecture, and in otherwise promoting the objects of the Royal Institute.

Mr. HALL submitted that when the Council was applied to to appoint a representative of the Institute, that was an

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"affair" or "concern" of the Institute within the meaning of Clause 16, and they alone could act in the matter. A resolution of the General Body of the Royal Institute was for different purposes entirely—viz. matters of direct policy. It would be quite inaccurate to correct the Report by saying that these were representatives of the Council as distinguished from representatives of the Institute. As to the application of the Institute funds, Clause 17 was explicit; it placed the application of the funds entirely in the hands of the Council for purposes connected with architecture and for promoting the objects of the Institute.

THE PRESIDENT ultimately ruled that the Report was correctly worded, and that Mr. Langston's amendment could not be put.

Mr. E. W. HUDSON, referring to the attendances at their Meetings, thought it was deplorable that there should be so small an attendance when such an important matter as their Annual Report was to be discussed, affecting as it did the interests of the great representative body of the profession. He did not know whether Mr. Woodward was right in his surmise as to the reason. As a matter of fact it was not the only Institution in this country in which members were not always to the fore in connection with the interests of their Body. He had noticed the same failing in other Institutions; unless there was some very extraordinary volcanic eruption nobody took any interest in their affairs. It was not creditable to the profession that there should be such small attendances in the metropolis of the Empire, and he hoped members would feel on reflection that they ought to come forward and show greater interest in its concerns. As regarded people who were so apathetic that they would not take the trouble to sign a nomination paper, he could only say that such people deserved to be misrepresented.

Mr. EDWIN T. HALL [F.] said they were all agreed that it was matter for deep regret that their Annual General Meeting should be so sparsely attended. He joined issue with Mr. Woodward as regards the reason. He always thought it was because the Institute had so much confidence in the Council that they did not think it necessary to come and question the report! At all events, it was open to that construction as much as the other. If there were any strong feeling about a matter, he was quite satisfied that the Meeting would be crowded. Referring to some of the other points raised, Mr. Hall said that the criticisms levelled against the Council's action in certain matters were quite legitimate and fair. They simply meant that some members who had spoken differed from the decisions which had been come to by the Council. It did not follow that even upon the Council there might not be differences of opinion. Everyone conversant with business must know that when a number of men discussed a matter round a table they did so from all points of view, and there might be reasons for dissenting from a proposition which was ultimately boiled down so as to give effect to the general consensus of opinion. With reference to St. Martin's Church, it was complained that they had not considered the public traffic, but the Council had considered it, and had consented to an interference with the steps. Mr. Woodward had told them, quite accurately, that Gibbs's design simply showed six steps, the architect's idea being that the road itself would be level with the bottom top steps; but the exigencies of traffic probably lowered that road, and these steps grew out of it. Now, it had been acknowledged that there must be some increase in the width there for the traffic, and the Council said: If that is so, take the lesser of two evils, and let the steps descend in a row. And that had been done. Surely that was trying sensibly to meet sensibly a public want. With reference to the attack made on the Conditions on page 60, there was this state-

ment: "The Council submitted to the Institute of Builders a revised Arbitration Clause, in which Clause 16 (Materials) was inserted amongst the clauses exempt from the operation of the Arbitration Clause." In other words, that was saying that the architect must be the sole judge of the materials. Then the Report went on: "The Council of the Institute of Builders accepted this proposal on the condition of certain changes being made in Clause 16 itself, which practically rendered its inclusion among the exempted clauses nugatory." Now, Mr. Woodward's information could not be better than the information the Council received officially from the Institute of Builders.

Mr. WOODWARD remarked that his information came from two members of the Institute of Builders.

Mr. HALL: But the Council have the official letter from the Secretary, with their resolutions and the words.

Mr. WOODWARD: I should like to see that letter.

The PRESIDENT: You can see it in the office.

Mr. WOODWARD: Why wasn't it published?

Mr. HALL, continuing, said that the Council had done their best to get a settlement. They tried to make the architect the sole arbitrator, and the Institute of Builders absolutely refused it. The wording of the Report was an absolutely accurate description of what occurred. As regards the question of architects' names appearing on advertisement boards, there were circumstances when it was quite legitimate. But as a general practice it was one that none of them would care to encourage. This was all the Council's resolution meant, and he hoped members would co-operate with them in making this as effective as possible, admitting there were circumstances when it could not be made effective. With reference to architects taking out quantities for their own works, he agreed with Mr. Woodward that no architect in London should do it. In the country it was the general practice that they should.

Mr. W. HILTON NASH [F.] said he hoped if the question of the widening of London Bridge came again before the Council they would very strongly urge its being widened. For ten years he had an office near the Bridge, and he had some experience of the inconvenience people suffered crossing it in the early morning and the evening. As regards the Museum in Tufton Street, he was glad the Council were giving their support to it. At the same time a more dreary museum could hardly exist. He hoped the Council's subscription would help to let a little more air and light into it, and to introduce a little liveliness.

Mr. HERBERT A. SATCHELL [A.] said that the question of small attendances at the Meetings, and the suggestion made to account for them, raised a formidable indictment. He had another suggestion to make—viz. that it was because it was almost impossible to sit on the back benches without being nearly frozen by the draught from the windows. Surely some means might be devised to shut out these draughts. He had heard visitors absolutely give it as a reason for not repeating their visit. Another disagreeable matter for people sitting there was the glare of the electric lights. It was quite a painful ordeal for people with tender eyes. For the comfort of people attending their Meetings both these matters should be seen to.

Mr. E. W. HUDSON, referring to the Tufton Street Museum, remarked on its unsatisfactory condition, and hoped that matters would improve. Things he had been particularly anxious and expected to find there in years gone by, the museum did not possess.

Mr. LACY W. RIDGE [F.] said he should like the clause about "self-advertisement" taken out of the Report. It practically accused members of going in for self-advertisement, and it ought not to appear in the Annual Report. It was very often difficult to find out who was the architect of a building. The builder, the decorator, the electric-light man, the ironwork man, and all the rest of them put

their names on the building; but it was often impossible to find out who was the architect.

Mr. HILTON NASH seconded.

Mr. WOODWARD said he would support the omission of the words "self-advertisement." He quite agreed with the principle enunciated in the paragraph—that it was undesirable; but he thought the words "self-advertisement" might be omitted.

Mr. RIDGE pointed out that the resolution referred to was an historical fact recorded in the Report. They could not tamper with the words quoted as part of that Resolution.

Mr. THOMAS BLASHILL [F.] said it was generally conceded that the signing of the architect's name in a modest and reasonable way upon a building was not undesirable in face of the fact that every painter marked his name on his picture, and every sculptor on his statue; the names of barristers and solicitors always appeared, too, in reports of cases they were concerned in. There was no sense in architects taking pains to disguise their connection with buildings they had erected. The resolution of the Council was directed against a too conspicuous display of the architect's name, as when it was painted in large letters on a board in front of the building. He suggested that the phrase "self-advertisement" was unnecessary. It was left to the good taste of architects in general to do as they liked in the matter; and if there were an intimation of that kind, architects might think the matter over and see how far it was desirable to go in their particular case, and where to stop.

After some further discussion Mr. Ridge's motion, seconded by Mr. Hilton Nash, that the clause be omitted entirely, was put to the Meeting as an amendment to the Report, and upon a show of hands was declared lost.

The SECRETARY having read the Auditors' Report, Mr. Woodward said it was to be regretted that that Report was not published with the Report of the Council.

The PRESIDENT said he could see no reason why it should not be printed with the Annual Report.

Mr. E. A. GRUNING, *Vice-President*, said there was no reason why it should not be printed after the meeting was held; but it should not be printed prior to the meeting because it had not been formally presented to the Institute.

Mr. RIDGE pointed out that the Council's Report was printed and circulated before its formal presentation to the Institute.

The PRESIDENT directed that the Report be printed and appended to the Annual Report.*

At this point the PRESIDENT put Mr. Ridge's amendment above-mentioned, with the result already stated. The Report itself was then put from the Chair and declared carried.

* The Auditors' Report will now be found printed, as directed, at the end of the Annual Report, pp. 318-19.



9, CONDUIT STREET, LONDON, W., 11th May 1901.

CHRONICLE.

The Standardising of Bricks.

A conference on the standardising of the size of bricks was held on the 26th ult., at the Agricultural Hall, between representatives of the Royal Institute of British Architects, the Institution of Civil Engineers, and representatives of brickmakers.

Mr. Thomas Blashill was in the chair, and introduced the subject by calling attention to the great difficulties that arose in carrying out building operations owing to the varying sizes of the bricks, and explained that a Joint Committee representing the two Institutions had drawn up certain regulations which they thought might be adopted; but before going further in the matter they desired to hear the views of brickmakers and others on the subject.

Mr. H. D. Searles Wood then read the following regulations suggested by the Joint Committee:—

1. The length of the brick should be double the width, plus the thickness of one vertical joint.
2. Brickwork should measure four courses of bricks and four joints to a foot.
3. Joints should be $\frac{1}{4}$ inch thick, and an extra $\frac{1}{8}$ inch, making $\frac{3}{8}$ inch, for the bed joints to cover irregularities in the bricks; this gives a standard length of $9\frac{1}{4}$ inches centre to centre of joints.
4. The bricks to be measured in the following manner:—

5. Eight stretchers laid square end and splay end in contact, frog upwards, in a straight line to measure 72 inches.

6. Eight headers laid side by side, frog upwards, in a straight line to measure 85 inches.

7. Eight bricks laid, the first brick frog downwards, and then alternately frog to frog and back to back, to measure $21\frac{1}{4}$ inches.

This is to apply to all classes of walling bricks, both machine and hand-made and facing bricks.

Letters were then read from Messrs. Laurence & Sons, Mr. E. Holevill, and Mr. A. Harston.

Mr. Joplin said that the difficulties from the brickmakers' point of view were easily got over in

one sense, but not in another: the chief difficulty would be in burning the bricks so as to keep the standard, and the apathy of a great number of brickmakers, who would not care about the standard so long as they could sell their bricks. The thickness was not so important as the length and width, and he considered $8\frac{1}{2}$ inches by $4\frac{1}{2}$ inches to be a satisfactory standard size. He thought a committee should be appointed, consisting of architects, engineers, surveyors, contractors, brickmakers, and others representing the views of the conflicting interests, who should decide what the standard should be. Then, if the various professions would specify that size, the main difficulty would be got over.

Mr. H. W. Richards said it mattered very little what the length was, so long as the just proportion was kept between the header and stretcher.

Mr. J. C. Hill said the Fletton brickmakers would have no difficulty in working to a standard. He thought that architects and others might confine themselves to a standard size for bricks for all work, and leave it to the makers to produce what was required. If they did not produce the size they would lose orders—that is, if the architects would insist on having a brick that would bond.

Mr. G. Wragge said that, generally speaking, the farther south one went the smaller were the bricks, and it would be a great advantage if architects, engineers, and brickmakers would come to some understanding with regard to size.

Mr. Bernard Dicksee said that the Committee thought they ought to assume a size that was most in use at the present day, though they would have preferred 9 inches centre to centre of joint. They measured a large number of bricks, and they found that nearly all of them were about 9 inches long, and it was felt undesirable to reduce the size. The Committee therefore selected $9\frac{1}{4}$ inches centre to centre as their standard.

Mr. S. G. Collier said it would be impossible to introduce a standard at once, but it would be a great advantage if all bricks were of the same size.

Mr. Goodenough said they were face to face with the fact that it was practically impossible to recommend a specified size when makers from all the surrounding districts were supplying the London market.

Mr. Blashill suggested that the Meeting might see fit to pass a resolution to the effect that it was desirable to get bricks as much of the same size as possible. They could hardly differ as to that. If they then formed a committee to decide what that size was to be, and if brickmakers were to do the best they could to supply the architect, engineer, and contractor with such sizes, that would help to get a standard size fixed.

Mr. Bates said the bricklayer would produce good work if the width of bricks was made in proportion to the length. Brickwork was done cheaper in America than anywhere else, and was

it not a fact that the brick there was smaller than the average brick in England? The proposed method of measuring the bricks was open to question; he had laid bricks measured in the way suggested, and the architect was not satisfied with the work, as the joints were much fuller than $\frac{1}{8}$ of an inch, although the eight bricks when laid dry measured $21\frac{1}{2}$ inches.

Mr. Hill suggested that there should be a standard size for facing bricks and a slightly smaller size for inside bricks. That would give the bricklayer a chance of making a neat joint. They did not want to "hammer down" the inside bricks.

Mr. A. Saxon Snell said that was a retrograde suggestion. What they wanted was to get all the joints the same thickness.

Mr. Searles Wood then moved that a committee be formed to consider the desirability of making the size of bricks uniform all over the country.

Mr. Smart seconded this resolution, which was put to the meeting and carried.

A vote of thanks to the Chairman concluded the proceedings.

The National Memorial to Queen Victoria.

A Special General Meeting, summoned by the Council under By-law 60 in compliance with the written requisition of twelve subscribing members, was held on Monday, the 29th ult., to consider a series of resolutions submitted by Mr. Wm. Woodward [A.] respecting the scheme recently made public for obtaining designs for the proposed Memorial to Queen Victoria. The requisition was signed by the following members:—Wm. Woodward [A.], Sidney R. J. Smith [F.], Zeph. King [F.], R. Falconer MacDonald [F.], Edmund W. Wimperis [A.], Arthur G. Morrice [A.], W. Hilton Nash [F.], Edw. Monson [F.], Alfred Frampton [A.], George Judge [F.], Henry T. Hare [F.], Harold R. Luck [A.], R. Stephen Ayling [F.], J. Douglass Mathews [F.]. The resolutions, a copy of which had been sent to every member resident in the United Kingdom, were as follows:—

1. That in the opinion of this Meeting the proposed National Memorial to Queen Victoria should be open to the competition of all British—including of course Colonial—Architects, Sculptors, and Artists.
2. That the first designs should be in the hands of the Committee at the date already fixed—viz., the end of June next—and that from those designs six should be selected, the authors of which should be engaged to perfect their schemes, and submit them at a date to be decided upon by the Committee.
3. That the author of the design selected from the six should be employed to carry out the work in collaboration with the Sculptor or Sculptors whom the Committee may designate.
4. That in the event of the Memorial being thrown open to general competition, as above suggested, the information furnished to the five architects already appointed, for their guidance in the designs, be immediately made public.
5. That the whole of the preliminary designs, as well as

the subsequent perfected designs, be publicly exhibited.

6. That these resolutions be at once transmitted to the Viscount Esher, with a request that they be laid before His Majesty the King.

The CHAIRMAN (Mr. EDW. A. GRUNING, *Vice-President*) having formally introduced the business, requested the Secretary to read to the Meeting the following letters received from members on the subject:—

From Mr. Wm. Emerson, President.

26th April 1901.

DEAR MR. LOCKE,—With regard to the Meeting convened for Monday *re* the competition for the Queen's Memorial, will you—as I shall not be in town—inform the Meeting from me that the committees discussed and considered the three points as to whether

- (a) An architect of eminence should be selected to prepare designs;
- (b) There should be an open competition;
- (c) If a few names should be selected to prepare designs, being remunerated for the same.

The committees, after considerable discussion, agreed to adopt the latter course.

Beyond supplying this information, I do not think there is anything further for me to say on the matter.

Yours very truly,

WM. EMERSON.

From Mr. J. Macvicar Anderson, Past President.

To the Chairman,—

29th April 1901.

DEAR SIR,—I regret that I am unable to attend the Special General Meeting of the R.I.B.A. this evening, and that I am thus obliged to resort to the less satisfactory medium of pen and ink in order to express my views, which I hope you will do me the favour to convey to the Meeting.

I wish to enter the strongest possible protest against the object for which the Meeting has been convened as expressed in the resolutions to be submitted.

It may be matter of opinion what might have been the best course to have adopted in regard to the Queen Victoria Memorial—whether to have selected an individual in whom confidence could be reposed, or to have a limited competition, or to have an open competition. Personally, the last proposition is *the* one against which I should have voted; but that is not the point of my protest. If the nation desire that it be left open to all to submit suggestions, let this be expressed through the nation's representatives or the Press. What I strongly feel is that the very last body which should express such views as are embodied in the resolutions to be submitted this evening is the Royal Institute of British Architects; for its doing so would be tantamount to asking that its members who have not been invited to submit suggestions should be permitted to do so. Anything more undignified, or less professional, I cannot conceive. The matter has already been carefully considered by the responsible advisers of the Crown and by a committee composed of the official representatives of experts—among them the President of the R.I.B.A.—and the procedure recommended by them and adopted by the King should in my opinion be accepted by all in a spirit of loyalty, as I feel sure would have been the wish of our much lamented Queen.

For the foregoing reasons—which I hope I have expressed clearly and concisely—I most strongly protest against the resolutions which are to be submitted to the Meeting this evening; and should the Institute be so devoid of what, in my judgment, is due to itself in point of dignity and professional etiquette as to adopt them, I must respectfully request that such adoption may be accompanied by this protest.—Believe me, yours very truly,

J. MACVICAR ANDERSON.

From Mr. J. C. Nicol [A.], Birmingham.

27th April 1901.

DEAR SIR,—Referring to your circular calling a Meeting of the Institute for Monday next, I regret my inability to be present at this Special Meeting to support the resolutions submitted by Mr. Wm. Woodward, but trust that they will be carried, as, in the interests of the profession, they deserve to be. It is also most desirable at the present juncture that your President and individual members of your Council should state at this Meeting, for the guidance of those who are asked to re-elect them, what their views are and what their action has been with regard to this national subject, and whether they are prepared to support the general principle of competition amongst architects or otherwise when asked to advise or express an opinion to public bodies. Also whether they are prepared to support and actively assist the Birmingham Architectural Association in their present endeavour to induce the Council of the New University to reconsider their decision with respect to the appointment of Messrs. Webb & Bell as architects for the proposed Technical Buildings at Birmingham.

Awaiting your report, I am, yours faithfully,

JOHN COULSON NICOL, A.R.I.B.A.

The Secretary R.I.B.A.

From Mr. Philip A. Robson [A.].

26th April 1901.

DEAR SIR,—The great stir which the decision of the appointed committee has created on their selection of but six gentlemen—five architects and one sculptor—to compete in designing the National Memorial to the greatest of all Queens augurs most hopefully for the future of the arts during this century. It has been said that the Memorial should be the best that the British can produce. But why British? Why narrow the scheme? Our late Queen not only merits the best possible Memorial, but the universal love she inspired should alone be sufficient reason to check this insularity. The precise form of the Memorial is a matter of hot debate, but it is surely clear that there must be no poverty of broadmindedness, that the scheme must be sufficiently comprehensive to be at once a Valhalla of a splendid monarch and of her greatest men. Let there be three architectural competitions. One, universal, with designs on a very small scale, adjudicated by a strong international committee with a British predominance; two, a selected competition, the number being dependent on the merits of the designs sent in for the first (but not exceeding one hundred)—the competitors for this second competition to be adequately paid for elaborating their previous schemes and preparing models; lastly, the final competition, limited to three, from which one design is to be selected. Then let the final design be elaborated, and let there be a single competition for the sculpture by means of models. All these competitions would be adjudicated by the same committee, and the designs publicly exhibited for the benefit of the fund. Mr. Norman Shaw has said that there is no classic school of design in Britain. Even if this is so, surely here is the one great opportunity for stimulating the desire to create one. A competition on this scale could not fail to increase the national prestige, to revivify the arts, and revere our late beloved Queen in a lasting way. I understand that the committee desired to give one architect the commission in the same way as they have appointed Mr. Brock as sculptor, and that the profession have to thank the President of the Royal Institute of British Architects for even this limited competition. However, the matter having gone thus far, there are, at present, only two courses open—(1) for the selected gentlemen to proceed with their competition; (2) for them to resign *en bloc* in deference to the loud note of disapproval which is being rung throughout the press; and there is no question but that the latter course would meet with unqualified

approval from the public, which asks very rightly, "If five, why not twenty?" And further still, why impose a limit? The commonwealth of the arts is neither national nor racial, but universal. If the thing is to be done well, let it therefore be universal.—I am, dear sir, faithfully yours,

The Secretary R.I.B.A.

PHILIP A. ROBSON.

Mr. Wm. Woodward [A.] said he must first thank the Council for having afforded them the opportunity of meeting at the earliest possible date after the delivery of the requisition. He proposed first to read the resolutions, then to speak shortly to them, and then to ask for that discussion which would, he hoped, result in the passing of his resolutions, or the framing of others having the same object—viz. that this competition should be open to every architect, every sculptor, and every artist. [The speaker, having read his resolutions, went on to refer to Mr. Macvicar Anderson's letter, and expressed his dissent from the views stated therein.] Continuing, Mr. Woodward said that he and those who thought with him were desirous of doing the best they could to show that art in this country was not on the ebb, but that it was on the flow, and that there must be dormant in the minds of many of the younger members of the Institute, in the minds of many young sculptors, and particularly in the minds of artists, ideas and grand conceptions which might not present themselves to the minds of the few eminent persons who had been singled out for the work. Mr. Macvicar Anderson had referred to the Press, but if ever there was a subject upon which the Press was unanimous in its expression of opinion it was on this particular subject of the Memorial to Queen Victoria. The *Times*, in a very fair leading article, had given the *pros* and *cons* of public competition, and though the writer of the article, which was supposed to have been inspired, deprecated this principle of open competition in its main features, he very carefully pointed out that the nation evidently desired that the Memorial should be open to public competition. It must be remembered that this was a Memorial which the nation desired should be erected in commemoration of one of the grandest monarchs of the grandest nation in history. The funds were public funds. There was no intention of getting a grant from Parliament. It was therefore only natural that the public, who subscribed the funds, should desire to have some small voice as to the way the money was to be expended. So far as expression in the Press went, the public were unanimous that this should be open to public competition, and, notwithstanding the views entertained by Mr. Macvicar Anderson, their past President, he hoped the Meeting would record its opinion that the present was an opportunity to raise a monument to their glorious, lamented Queen which should last for ages as the exemplification of the art of this particular era. Not only would it be the prevailing monument of the generation, but it would be the prevailing monument, the artistic outcome, of the feelings prevalent among the architects and sculptors of the day. Reverting to the history of the scheme, the Meeting was aware that a general committee had been formed, and subsequently a sub-committee was appointed. One of the members of the sub-committee was the President of the Royal Institute of British Architects. In the letter read to them that evening the President had given them no indication whatever of the part he had taken in the proceedings, or as to what views he had expressed as regards the feelings of the general body of the Royal Institute of British Architects. He should have thought that the President would have desired to give the Institute over which he presided the opportunity of bestowing upon the nation the best that could emanate from the brains of the members of the Institute; but there was not one word in the President's letter to indicate what his opinions were on the matter, and for this omission he (the speaker) ventured to express his deepest regret.

The CHAIRMAN pointed out that it was quite impossible for the President, as a member of the Committee, to make public what had transpired in their deliberations, or to intimate what his opinion or any opinion expressed on that Committee had been.

Mr. Woodward, continuing, said that, with regard to the five selected architects, everyone admitted the merits, the artistic skill, and the ability of each of them; but it was impossible for any of those five architects to know more than any other five architects could know of the particular character of the design requisite for this Memorial. If the intention had been to erect a cathedral, a hospital, or an asylum, a selection of five architects known to be especially skilled in such buildings would have been perfectly legitimate. But, unfortunately for this country, and for architects, there never had been an opportunity for the exhibition of skill in this particular direction of architectural design. Therefore, why these five architects as apart from any other five architects, or any other fifty architects, were selected by the Committee was a matter he could not for a moment understand. It had been said that open competition would involve very considerable trouble on the part of the assessors. He was not so sure, however, that the Committee would be overrun with designs for such a unique competition. But, even supposing they were, it would be easy for any committee to select at once the particular designs worthy of further consideration in view of the ultimate choice. Some of the finest buildings in modern times were the result of open competition—the Paris Opera House, for instance, and our own Houses of Parliament. So in this case, they were more likely to get the best talent possible by open competition than by one restricted to only five architects. The resolutions he had to propose were but tentative: they were simply his own ideas, and possibly members might suggest something more satisfactory; but he hoped that members would express their opinion as to the resolutions, and, if they did not adopt them, that they would adopt something similar in principle, so that the object of open competition would be attained. [The speaker concluded by formally moving his first resolution.]

Mr. OSWALD C. WYLLSON [F.], in seconding, expressed his regret that the Council of the Institute had not called a meeting earlier to discuss this important question. The announcement that five architects had actually been appointed had taken everyone by surprise. Nobody seemed to have any real knowledge of what had been happening. The whole proceedings had been a great deal too hurried, and kept quite unnecessarily secret. That seemed to be the universal feeling, and comments in the Press emphasised the view. It was the province of the Institute to consult the interests of the profession in a case like this, and to protest against their being ignored in a matter of so much importance and popular interest as this National Memorial. As to the difficulty of assessing, supposing this were to be an open competition, that was not an insuperable difficulty; and the question might be determined by the competitors themselves.

Professor BERESFORD PITZ [F.] said he sympathised entirely with Mr. Woodward's views, but he wished to move an amendment on his first resolution. That resolution seemed to him to be inconsistent with the second resolution, and his amendment would meet that inconsistency. He could not see, for instance, how a competition could be open to all British, including of course Colonial architects, when the designs had to be in the hands of the Committee by the end of June. The amendment he ventured to propose was to read, instead of Mr. Woodward's words, the following: "That, considering the deep and widespread interest manifested throughout the Empire in the proposed national monument to her late lamented Majesty Queen Victoria, and in view of the limited opportunities for the exercise of monumental design in

London that have been offered during recent years, and the absence of useful precedents, this Special General Meeting of the Royal Institute of British Architects, of which her late lamented Majesty was Patron throughout her long reign, respectfully urges upon the Executive Committee of the National Memorial its earnest conviction that designs should be invited in open competition from all British architects for this most important and unique monument, which it hopes would then become representative of the best and most enthusiastic efforts of modern monumental architectural art; and, further, this Meeting would suggest to the Executive Committee the necessity of affording sufficient time for the preparation and submission of designs by architects resident in all parts of the Empire, of whom many are members of this Royal Institute." He trusted that amendment would receive support. As a member of the Council he might be permitted to say that the subject had not been before the Council in any form at all. The reason it had not been before the Council was, he supposed, because the President of the Institute, in his official capacity, had been put upon the Executive Committee, and that was an honour done to the Institute, and a recognition of the Institute by those in authority, for which they should be thankful. Of the action of the President on that Committee, this they could say with certainty, that whatever advice he had offered it had been dictated by his regard for the interests and the dignity of the profession, and in what he conceived to be its true interest. The nature of that action he had not in any degree revealed to them, and in this, of course, he was perfectly right. He was acting as a member of a concrete body, and was not in a position without their authority to reveal what took place at their Board. He had, however, very kindly mentioned in his letter the three courses discussed by the Committee, though he did not tell them which course he had supported. Following upon that letter, and upon the information which it placed before the Meeting, it seemed perfectly open to them to discuss one or other of these courses considered by the Committee. If a mistake had been made, surely the mistake must be rectified. It was idle to say that because it had been done officially, therefore it could not be rectified. No one would assert that a mistake had been made in manner or form by the Committee, but in judgment only, and if they confined their resolution to that point they would carry whatever decision they arrived at with more dignity and with more usefulness than if they discussed at large mistakes they imagined had been made in other directions. With regard to the whole subject of competition, it must be borne in mind that the Council of the Institute and its President had from time to time been most energetic in repressing competition, possibly feeling that the competition fever had been the cause of many disastrous ills. The competition fever dominated small bodies, often with unsatisfactory results to both parties; but there were occasions, and he ventured to think this was one, on which open competition could do good. For the reasons indicated in his amendment, he thought it would be well if they could send up an expression of opinion, and fortify that expression of opinion in some concise way by the reasons which had led up to it, so that it might go before the Advisory Committee as more or less a consultative document. What they objected to in the profession, and the point to which the action of the Council and the President had always been directed, was the abuse of the competitive system; but he ventured to suggest that the system had its uses. If there were no use there would be no abuse. But they must not let their blind dread of abuse drive them in the opposite direction, of drying up all the channels of originality which competition produced. There was one point upon which he knew the President felt very strongly, and the feeling was shared by many

others among them—viz. the enormous waste of money that the competitive system caused to the profession. But that objection did not apply in the present case. This was a case, he ventured to think, in which the Lamp of Sacrifice would burn very brightly amongst her six brethren. With regard to the possible success of competitions in such subjects, it must be borne in mind that in monumental architecture there was very little basis for mental stimulus to go upon. The conditions were of the widest character, and unless the mind was kept fertile, and kept on what might be called the imaginative plane, no success would be achieved. He would remind them of the competition which resulted in perhaps the finest monument of their era—viz. the Wellington monument in St. Paul's. That was a monument as to the merits of which both sculptors and architects were in agreement; and that achievement was the result of open competition. Had they attempted to select an artist for the work, he could not imagine any Committee of Selection singling out Stevens—who previous to that time had produced nothing beyond some small but wonderful decorative work in the metal trades. The habit of competition was as old as the Greeks, and had flourished in the Renaissance.

Mr. H. V. LANCHESTER [A.] seconded the amendment. He most cordially agreed with all Professor Pite had said on the subject. Mr. Anderson said in his letter that the Institute should be the last body to raise this question; but surely it was for the representative body of architects to take the lead in expressing an opinion on an architectural question. Surely, also, they were guilty of nothing irregular in expressing their feelings, not for the sake of architects, but of the public; for nobody expected that the work put into this Memorial *con amore* would receive more than a labourer's wage in the result. Architects doing the work would put into it the very best of which they were capable, because they would be proud and anxious to be associated with such a monument; and if it were an open competition they would hardly expect to be gainers in pocket. They were all anxious that there should be every chance given to secure the greatest work that the age could produce. Mr. Pite had said so ably all that was to be said on the matter that he (the speaker) would add nothing more, except to express his strong agreement with his amendment. It was much simpler and more comprehensive, and, with all deference to Mr. Woodward, he thought it more likely to be attended to than his first resolution.

Mr. E. W. WIMPERIS [A.] said he desired to lend very hearty support to Mr. Pite's amendment, but he should at the same time like to thank Mr. Woodward who had been the means of bringing forward this matter. They were met under very peculiar circumstances, and they should make some effort to keep their proceedings above the plane of personality. In all the objections and criticisms as to the course pursued by the Committee, there was no doubt that a consensus of recognition was granted most loyally to the five gentlemen who had been selected to compete for the Memorial. Those gentlemen had done much to raise the standard of architectural art, and had helped to found a national architecture, of which the young men in due time would be the exponents. But the official recognition bestowed upon these professional brethren of theirs, and which they did not grudge them in the least, was also an official rejection, for there were other names which would readily occur to them which should have been included. That brought him to the point of the peculiar circumstances under which they had met. Any protest the present Meeting might think fit to utter must lack the voice of those of recognised ability and unquestioned eminence in their profession, for this reason: that men of the highest attainments whose opinions would make any protest cogent and not to be neglected, were in an invidious position, which prevented them making any

utterance at all. So, should it be held, as probably would be the case, that the protest raised by the present Meeting was backed only by young and little-known men, such criticism was to be met by the statement that those who could have helped by virtue of their position had their mouths shut by the official selection already made, and because they would be open to the charge of personal envy. He trusted, however, that this protest, coming as it did from the Royal Institute of British Architects, the representative body of their art, would receive consideration on that score. But there was something higher still. There was the recognition which attached to the position of a man recognised by all, either in this country or anywhere else, as the master mind of architectural art in the present day—viz. Mr. Norman Shaw. Mr. Norman Shaw had expressed his views on the matter to the effect that the competition should be absolutely unlimited, and no body of architects could afford to ignore that particular expression of opinion. Another point, the funds to pay for this monument were not derived from taxation; they were not tribute money bearing the image and superscription of authority upon it, but they were a freewill offering which could only be worth having if it bore upon it the legend, "The nation has given of its best." Should, however, the proceedings that had been taken be allowed to go unquestioned, and their grievance unredressed, this Memorial must go down to posterity, not as the best that the nation had to offer, not as the best which the nation would have offered, but as the best that it was allowed to offer.

Mr. A. FRAMPTON [A.] said that the question of the provision of this Memorial to our late Queen was a national, an Imperial question, and the most important that had ever been discussed within the walls of the Royal Institute. The Committee had invited the whole of the British Empire to contribute to the funds, therefore it was the duty of the trustees of the money to see that they got the very utmost and the very best possible that money could purchase or genius devise. To obtain that they must search the Empire through to find out where the best could be found. In the case of the Houses of Parliament the best was sought for in open competition, and every one agreed that the best had been found. It was still more desirable that that procedure should be followed in the present case. As regards the Colonies one could not but feel that they had been treated with a sort of silent contempt by ignoring them entirely, and simply inviting one architect from Dublin, one from Edinburgh, and three from London. It was due to the Colonies that they should be considered. By reason of their patriotism and prowess they had the highest claim to our gratitude, admiration, and esteem. Therefore let there be an open door in this matter, so that everyone throughout the Empire could enter and take part in this great national project which concerned them all. In conclusion he trusted that everyone would subscribe to the Fund, and so help to secure a monument worthy of their great Queen and country.

Mr. MAURICE B. ADAMS [F.] said it would be well to have the authority for attributing to Mr. Norman Shaw the views quoted by a previous speaker. So far as he was aware, the remarks attributed to Mr. Shaw had been printed in the sensational report of an interview published by a daily paper, but from his knowledge of Mr. Norman Shaw it was very doubtful whether the words put in his mouth by the writer in question ever came out of it; for he (the speaker) could scarcely believe that Mr. Shaw would give expression to words so unguarded as those which had been quoted. Personally he was entirely in agreement with much that Mr. Pite had said in introducing the amendment; but at the same time he felt that if they carried this resolution they would make a great mistake. He gave way to no one in his desire to see every young man

afforded an opportunity of showing what was in him, and to this extent Mr. Woodward was to be thanked for bringing the matter forward; but the Institute, considering what had taken place, would be ill-advised to send in a formal protest. They might be within their individual rights in protesting, but he doubted the wisdom of their doing so as a Society. It was no use hitting unless they could hit hard; and there was just a possibility of their being made to look ridiculous. The President was a member of the Memorial Committee, and from what he (the speaker) knew of him, he was perfectly convinced that the President had done his very utmost in the direction that had been advocated that evening. He thought they should be very careful before committing themselves to such a protest, or they might do more harm than good.

Mr. E. W. WIMPERIS, referring to the last speaker's remarks about Mr. Norman Shaw's views on the matter, said he would not guarantee the source of his information, but should like to say that it was not in a sensational paper, and that the interview was one of some length. Beyond that he should like to say that it seemed to coincide with the views Mr. Norman Shaw had expressed in days gone by, and which one would expect him to hold.

Mr. WOODWARD said that as his only object was to secure open competition, he was perfectly willing to adopt and support Professor Pite's amendment to the utmost of his power. Therefore he begged leave to withdraw his resolution.

Mr. SILVANUS TREVAIL [F.] said there was one point he should like to refer to—viz. their feeling of loyalty to the late Queen. He could not help feeling that that question had been to a very great extent ignored. With regard to what had been said about the Colonies: it should be remembered that they had some very able men indeed in Canada and in Australia, at the Cape, and elsewhere in their Colonies, and it would be a very great slight to the men who had come forward so nobly in the recent South African business to ignore them altogether; it would be one of the worst examples that could be set here in this centre of the Empire. They were too prone to look at these things as if they concerned London alone. They should rather endeavour to expand themselves with the Empire, and show themselves to be Imperialists in the proper sense of the term. He should like to go one step farther, he would have them look upon themselves as citizens of the world, as it were, and throw the competition open to all, without regard to country, so as to secure for their Memorial the best art the world was capable of producing. To sit down quietly and not enter a protest, and not even discuss a matter of this sort, was simply ludicrous. He could not understand any man brought up in the school of architecture, where he was taught to reason out his plans and designs, submitting himself to a position of that sort. He most heartily supported Mr. Pite's resolution. It had now become the substantive motion, but he was delighted that Mr. Woodward, to whom their best thanks were due for having brought the matter forward, had had an opportunity of doing it.

Mr. GEORGE ELKINGTON [F.] said it was much to be regretted that their President was unable to assist them with his views on the matter. As far as they understood, also, it had not come before the Council nor been discussed by them. Therefore the general body were only fulfilling their proper function in calling this Meeting in a constitutional way to discuss the matter thoroughly. It was necessary to emphasise that point for the benefit, possibly, of anyone present who was wavering as to his vote on the question. The Institute ought to lead public opinion on a matter of this sort. They existed for that purpose. It was not necessary for them to wait till the press gave an indication as to which way the wind was blowing. It was for the Institute to move in this matter, as being one on which they could speak and act as experts. They should

know better than anyone else what was the right thing to do, and with all respect and with firm unanimity of purpose they should submit their views to the proper quarter. It might almost be anticipated that a dignified protest coming from them as a body would have the effect they desired. Many of the evils they deplored were wrought from want of knowledge, and not from want of desire to do what was right on the part of those in authority. In addition to that, what had been said about the Colonies—and, for the matter of that, the provinces too—was a point which ought to have been brought very strongly before those who were responsible for the arrangements, because there was no doubt that among all those, both the junior men and those who were quite resigned to being designated the unknown men of the Institute, there was a feeling that they would like to give of their best in kind, and if they were to be debarred the opportunity of perhaps realising the one brilliant idea that might come to them in a lifetime in a chance like this it was very hard. He did not see why there should not be a competition—such, for instance, as they would have in Paris, where they always began with preliminary sketches giving a general idea of the design. As far as the feeling of the Meeting went, they seemed pretty well of one mind; and it was abundantly clear that they were not on unsafe ground, and they need not fear the bogey of having no authority. Let them all speak as men, with the courage of their opinions and the knowledge that they were speaking of that which they knew.

Mr. J. DOUGLASS MATHEWS [F.] said he thought that there was a middle course open to them. After five architects had been nominated, and accepted, they would be putting themselves in a very invidious position if they opposed that which had been already done. He quite felt the force of the other view, but he had drafted an amendment which to a certain extent went with that of Mr. Pite. His proposition was, "That, the proposed Memorial to Queen Victoria being of intense interest to the people of the Empire, prior to the preparation of designs by the architects invited to compete there should be afforded to any person so disposed, the opportunity to submit suggestions, either drawn or written, with the author's name attached, for exhibition." That would enable architects, sculptors, persons of fertile imagination, and others generally to submit their ideas. They must not forget that the interest taken in this Memorial was universal; something was wanted entirely different from anything that had been produced before, and therefore the more suggestions they could get on this matter the better. No doubt there would be a great many suggestions offered which would not take two seconds to deal with, but on the other hand there might be ideas put forth that would be worth the consideration of the competing architects. This would allow architects to send in designs. Further, his proposal would maintain the appointment already made by the Committee, which, they must all feel, was a very important point, and especially as the architects nominated were gentlemen in whom they all had confidence, and for whom they all had respect. Therefore under the circumstances he put forward the proposal he had indicated for consideration, although he was afraid the Meeting had made up its mind for competition.

Mr. FRANK LISHMAN [A.] pointed out, in reference to the remarks of the seconder of the amendment, that the Meeting was composed by no means of young and unknown men—that the Meeting was a very representative one, and included men of all ages and many of recognised attainments.

Mr. H. T. BONNER [A.] thought that the Chairman had given the keynote with regard to the Meeting and with regard to the method adopted by the Council. It struck him as being somewhat singular. Surely the members of the Institute must and should look to the Council not only to protect the interests of the Institute, but the interests of

architects generally. He quite understood the position of the President, and that his mouth was closed as regards what had taken place on that Committee; but the Council might in some way or other have approached the Executive Committee and laid their views before it. The Council evidently had failed or had not tried to carry out that idea. The Meeting that evening was a tolerably representative one—quite as much so as they got on any other occasions; and he thought that a protest coming from that Meeting would have some good influence, and that they should therefore support Mr. Pite's resolution.

Mr. A. W. TANNER [A.] said he should like to thank Mr. Woodward for the courage and promptitude he had shown in bringing this matter forward. Everyone was surprised at the limited competition arranged with such extreme haste by the Executive Committee, and great credit was due to Mr. Woodward for affording this opportunity of expressing views in the minds of all. At the same time, they, as an Institute, were in a very awkward position in the matter. It must be remembered that they were duly represented by their President, who had been honoured by an invitation to serve upon that Committee. The acts of the Committee had been approved by his Majesty the King, and they were present as loyal subjects of his Majesty. He thought the wisest course would be not to send in a formal resolution to the Executive Committee, but to lay their views before it by some friend at court. He endorsed a very great many of the remarks made by Mr. Mathews; if the words he proposed could be embodied in Mr. Pite's resolution it would be better. It should not be architects only, but sculptors, and artists, and others should be invited to compete. He urged very strongly that care should be taken to bring this resolution in some informal way before the Committee.

Mr. E. W. HUDSON [A.] said that the awkwardness of the position was due, not to the fault of the Institute, but to the undue haste—if he might say so, with great respect—with which the matter had been pressed forward and brought to a focus by the Executive Committee. He hoped most emphatically that the Meeting would not consider the matter from the point of view of mere expediency, but would do what was right in the interests of architecture. There were occasions on which great questions like this should rise above expediency and a false etiquette, and they should express themselves according to their true convictions. He could not agree with Mr. Mathews's proposal, because, knowing what human nature is, he did not think the eminent men who had been invited to compete would take notice of any sketches or ideas submitted by other people, even if the Executive Committee, now it had gone so far, was duly prompted (as it should be by the Institute's representatives), and could and would be disposed to lend an ear to the wishes of the general body so expressed. He should be glad to support a middle course that would meet the case; but he did not think it went far enough, or would answer the purpose at all, and under the circumstances he hoped this Meeting would support the amendment proposed by Professor Pite.

In reply to the Chairman, Mr. DOUGLASS MATHEWS said that as the Meeting seemed to be against his proposition he did not desire it to be put to the vote.

Professor Pite's amendment was then put from the Chair as a substantive motion, and upon a show of hands was carried by a large majority, four members voting against it.

The CHAIRMAN, in conclusion, said that there was a precedent for the decision come to by the Committee, for in the case of the Prince Consort Memorial six architects were invited to compete, and there was no other competition.

The President, at the Annual General Meeting on the 6th inst., stated in reply to Mr. Woodward that the Resolution of the Special General Meeting

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had been before the Council at their Meeting that afternoon, and would be forwarded to Lord Esher on the following day.

The President's Nomination.

At the Meeting of Monday, the 6th inst., before proceeding with the business of the evening, the President addressed the following remarks to the Meeting:—

GENTLEMEN,—Before proceeding to the formal business of moving the adoption of the Annual Report, I wish to express to you, and also to the Council, my deep sense of the very great honour the Institute has done me in nominating me for the Presidentship for a third year. I feel it a very high honour, more especially having regard to the unanimous nomination of my own colleagues, with whom I am naturally intimately acquainted; and I look upon it as a formal approval of whatever I have attempted to do in the interests of the members of the Institute during the two years of my office. I can only say, Gentlemen, that in nominating me this third year, I very greatly appreciate your kindness, and I shall do my best, as I hope I have done before, to further the interests of art and architecture and of the profession at large, and to extend the influence of this great Institute.

The Suspension of By-law 26.

At the Meeting of Monday the 6th inst., on the conclusion of the discussion on the Annual Report and of the ordinary business of the Annual General Meeting, Mr. Lacy W. Ridge [F.] brought forward the Resolution appearing against his name in the notice-paper—viz. "That in the opinion of this Meeting it is not desirable that By-law 26 be repeatedly suspended. The Royal Institute looks to the Council to put forward each year a nomination for the Presidency in accordance with the constitution of the Institute as laid down in the By-laws."

Mr. RIDGE said that at the Meeting three weeks ago he had said what he had to say on this subject. What occurred then showed the absolute necessity for some Resolution of this sort, because it had become the habit to suspend the By-law. In fact, the By-law was ignored in favour of a proceeding which was growing into a custom. It was, he thought, a matter of considerable importance that, unless there was good reason to the contrary, they should keep to the By-law. In case there was any objection to the Resolution, he should like to say something in reply; but from what took place the other day he thought the Resolution would pass.

Mr. H. HARDWICKE LANGSTON [A.] seconded the Resolution.

Mr. WM. WOODWARD [A.] said that in the future when it was proposed to suspend the By-law he would suggest that the Meeting be informed whether or not the sanction of the four Vice-Presidents had been obtained to the proposal. If it were known that the four Vice-Presidents agreed to the proposal, it would certainly enlighten the Meeting and give unanimity to the proceedings.

The PRESIDENT said that the By-law never had been suspended yet without the unanimous vote of the Council.

Mr. WOODWARD: With the sanction of the four Vice-Presidents?

The PRESIDENT: All the members of the Council cannot attend the Meetings; but there had always been absolute unanimity among those present when it had been decided to recommend the suspension of the By-law.

Mr. LANGSTON said he had only seconded the motion *pro forma*, but he would suggest that there should always be two names put forward for the Presidency. It would then be real voting. At present it was not voting at all. There should be more than one person nominated, so that members should have their choice.

Mr. EDWIN T. HALL [F.] pointed out that the By-laws provided for that. If another name were wanted it could be added on the nomination of seven subscribing members. With regard to Mr. Woodward's suggestion, it was not desirable to separate the four Vice-President members of the Council from the action of the other members. It was very undesirable to have cliques on the Council.

Mr. JOHN SLATER [F.] said it seemed rather an academic question. Everybody would agree that it was not advisable to suspend by-laws frequently. That was a matter there could be no dispute about. But members of the General Body could not know the reasons which induced the Council to put forward these propositions for suspending the By-law. On general grounds it was undesirable, and the Council were fully aware of it, but sometimes it was the best course the Institute could follow.

Mr. HALL said he would simply suggest to Mr. Ridge that it was not desirable to put such a Resolution to the Meeting.

Mr. RIDGE said he should quite agree with Mr. Hall had it not been for the action of the Chair three weeks ago, when members were practically told that it had become so much a custom that it would be almost a slight on the existing President if he were not put up for the third year. He, like others, felt the absurdity of putting abstract Resolutions, but there seemed no alternative. It looked as if the By-law was to be followed only in exceptional cases. If it were suspended for a third year, why not for a fourth? When these By-laws were written, it was most distinctly understood that there should be a change every two years. There was a very strong opinion among members that there should be more changes in the Council. It was this idea of stagnation that was doing so much harm to the Institute, and weakening its influence; and this unfortunately was happening at the time when there was apparently some chance of the Institute representing the profession and influencing the public. The Institute had had better opportunities of doing that in the last few years than they had ever had before; but unfortunately very little good resulted from those opportunities. He did not want any abstract Resolution. Having said this, he should prefer to let the matter go; but he did protest against the By-law not being followed, and its suspension being looked upon as the ordinary thing.

The PRESIDENT said he hoped the reason Mr. Ridge had given was not the reason why the Council had unanimously nominated him again. He was not in the room when the voting took place, but he was told that it was a unanimous vote asking him to act for a third year. If he had understood that it was because he might feel himself slighted it would have been the last thing he should have accepted. Mr. Ridge must be under a misapprehension as to what was said, for he could not think that such a thing was in the minds of the Council when they nominated him again. With regard to the other point, that the apathy and indifference of the General Body were due to the incompetence of the Council, it was quite open to members to propose other names than those put forward by the Council. They had all the machinery for doing so. For himself, he knew the Council very intimately all round,

and he had had a good many years' experience with them, and he was perfectly certain that a more competent body of gentlemen could not be got together than the present Council.

Mr. SLATER said he understood Mr. Ridge to say that he was quite satisfied with having made a protest; but if he moved the general Resolution that it was undesirable to suspend the By-laws except in emergencies, everybody would agree with him. He thought the general body of the Council must appreciate what Mr. Ridge had said, and if he would not press it to a division it would be very much better.

Mr. RIDGE said he was quite willing to withdraw his proposition. With regard to his view of the Council, the President had quite misunderstood him. His contention was that a change was required in the Council, not because the present Council was incompetent, but because it was desirable that a very much larger number of practising architects should go on the Council and do the work of the Institute in their turn. That was what was wanted. He had told people over and over again that if they wanted anything done in the Institute they must do it themselves. They must attend the Meetings, or they must get committees appointed that would do the work which they have to do. The Council themselves had not the machinery for doing it, although the Council were willing to help. He had lately taken up an important matter, and, he believed, had pulled it through to something like a successful issue, with the co-operation, so far as it was necessary, of the Council, and with the very useful and most full co-operation of the Secretary. That had been done by himself with a few other private individuals. That was the only way they could get the work done. He did not blame the Council in the least. He did not say the Council was incompetent, but he did say that they wanted a flow of men through the Council, more men who would know something about the Institute and the work of it, and the powers and capabilities of the Institute, and what the Institute could and what it could not do. That was what he wanted.

The PRESIDENT stated that this question as to more frequent changes in the Council had been raised on one or two former occasions; but if members took the trouble to look through the list year by year they would find that there was a steady flow of new blood into the Council.

The Architects' Benevolent Society.

Mr. FRANK BAGGALLAY [F.] writes:—

Referring to the annual report of the Architects' Benevolent Society published in the JOURNAL on the 6th ult., the want of funds disclosed is unfortunately no new thing, and the appeals made to the profession from time to time do not seem to do much to remove the evil. If the Society were a branch of the Institute, the latter might, and very likely would, insist upon all members becoming subscribers: it is to be hoped that such an amalgamation will some day be found possible. Meanwhile, the Institute cannot very well act officially as an agent for the Society, but it has occurred to me that unofficially it might be possible for the former to encourage certain donations to the latter's funds by letting it be known that such donations were expected. For instance, when an architect is admitted as a Fellow without having passed through the Associate class, it may be assumed that he is a man

in a position to afford a substantial donation to the Benevolent Society in lieu of the examination fees others have had to pay (not forgetting accumulated interest); and if it were known that such a donation were expected there would probably be very few to grudge it. Again, when an architect obtains an appointment as arbitrator or assessor through the intervention of the Institute or its President, the commission is probably a quite unexpected one, and the fees an addition to income not calculated upon: there is not, I think, anything unreasonable in suggesting that a percentage of such fees, say even 10 per cent., might go to benefit the less fortunate members of the profession. The total amount collected in this way might not be very large, but it would at least help to build up a capital fund.

New Nominations to Art and Science Standing Committees.

Owing to an oversight the names appended did not appear on the nomination list recently issued by the Council and Standing Committees. The nominations in each case are now made under By-law 49 by the following seven subscribing members:—Wm. Emerson, Alex. Graham, Edw. A. Gruning, John Slater, Edwin T. Hall, Thomas Blashill, W. D. Caröe.

To the Art Standing Committee:—

John Macvicar Anderson, F.R.S.E.
Edward William Mountford.
Henry Thomas Hare. } *Fellows.*
Robert Shekleton Balfour, *Associate.*

To the Science Standing Committee:

Alfred Saxon Snell, *Fellow.*

The late John W. Blakey [A.].

The unexpected death from pneumonia of Mr. John W. Blakey occurred on March 19th. Mr. Blakey was articled to Mr. Thos. Howdill, of Leeds, in May 1877, and subsequently entered the office of a Liverpool firm of architects. While in Liverpool he passed the qualifying examination of the Institute, and subsequently commenced business on his own account. For some years past he was widely known and highly esteemed as a quantity surveyor of more than ordinary ability, and was entrusted with work of considerable importance, both for leading architects of the city and for the Liverpool Corporation. He also held the appointment for the last six years of Lecturer on Quantity Surveying at the Liverpool School of Science, a large number of successful students testifying to the quality of his training and methods. Mr. Blakey took a deep interest in the work of the Liverpool Architectural Society, acting as a member of the Council for some ten years, and also in the capacity of Librarian. His loss at the early age of thirty-nine

is mourned by a large circle of friends, to whom he had endeared himself by his geniality and sterling qualities.

Liverpool.

CHARLES E. DEACON-[F.].

REVIEWS.

SPECIFICATIONS.

Building Specifications. By John Leaning. 8o. Lond. 1901. Price 18s. net. [Mr. Batsford, 94, High Holborn, W.C.]

Is it not rather to be regretted that it should be considered necessary to publish such a volume as this for the use of architects and others, and that the author should see the advantage of the preparation of the specification for every building by a quantity surveyor, on the plea that architects have in many cases no time for this important part of their duty? It must surely be known that no one but the architect of a building is the author best calculated to write the specification of works. Who but the architect can determine the quality of the work throughout the building, seen and unseen? and yet how sadly this is poohpoohed by so many members of our noble profession. I think it unlikely that this elaborate work will be of much use to architects in good practice who know their work thoroughly.

Such a work, however, for whomever intended, should be accurate, and free from discrepancies. Such items as flues, quarter-partitions, plumbers' work, &c., should be differently treated. In a plan on page 7 flues are shown evidently 14 inches by 9 inches, which is unnecessary, 9 inches by 9 inches being ample for nearly every apartment in a building. The author gives quarter-partitions 4½ inches thick: they need not be, excepting for bricknogging. In plumbers' work the description is rather vague; no drips are mentioned, and this imports an insufficient description into this model specification. Two flat pieces of slate and rebated slate roll are a poor description of ridge covering; lead or red or blue Staffordshire solid ridge is the only sound ridging. Why does the author, in the section on drainage, make no mention of an intercepting trap and clearing eye? Essential details of practical work are so little understood in bringing out an elaborate work of this kind, so many other matters having to be considered, but when students are thought of one cannot be too accurate. I have little doubt that a copy of a complete specification drawn by any architect of ability for any important building, not by any means a large one, would be of greater service to most. It may seem ungracious in reviewing such an able work to cavil at small matters of detail, but it is so important in every building that all practical items should be perfectly understood by the architect in the preparation of a specification.

EBENEZER GREGG.

LEGAL.

Construction of Buildings: Building used partly as a Dwelling and partly for Trade.

DICKSEE v. HOSKINS.

This case, which was heard in the King's Bench Division on the 24th and 25th April, was stated for the opinion of the Court by a metropolitan police magistrate who had allowed a builder's appeal to him under section 150 of the London Building Act 1894. On 11th July 1900 the respondent Hoskins, a builder, served notice on the appellant, a district surveyor, under section 145 of the Act, of the proposed erection of a building at No. 87, Old Kent Road, together with plans showing that the proposed building was the re-erection of a licensed beerhouse on the site of an old beerhouse called the "Horse Shoe." On 16th August the appellant, as such district surveyor, served upon the respondent a notice of objection to the proposed erection of the building under section 150, on the ground that it would be a contravention of subsection 2 of section 74 of the Act, and the respondent appealed to the magistrate.

It was proved or admitted that the building when erected would exceed ten squares in area, and would contain (1) in the basement, wine and beer cellars; (2) on the ground floor, a bar, public lobby, saloon bar, private bar, bar parlour, and a public room; (3) on the first floor, a sitting-room, three bedrooms, and a kitchen; and (4) on the top floor, attics. That the old house called the "Horse Shoe" and the site of the new building was licensed and used, and the new building, when completed, would be licensed and used for the sale of wine and beer to be consumed on or off the premises under the Beerhouse Act 1830 (11 Geo. IV. and 1 Will. IV. c. 64), and the Refreshment-House Act 1860 (23 & 24 Vict. c. 27), and the Acts amending the same respectively. That the trade of the house would be carried on in the basement and ground floor, and the licensee and his family would reside on the upper floors. The whole building would be covered by the justices' certificate and the Excise licence. The plans had been submitted to and approved by the licensing justices for the Newington Division. That the floors separating the ground floor from the first floor, and the staircase leading to the first floor, would not be constructed of fire-resisting materials, and if subsection 2 of section 74 of the Act applied to the building the provisions of that section would be contravened. It was contended by the appellant that subsection 2 of section 74 applied to the proposed building as it was to be used in part for the purpose of the trade of a beerhouse and in part as a dwelling-house. It was contended by the respondent that subsection 2 of section 74 did not apply to a beerhouse, and the decision in *Carritt v. Godson* (1899), 68 Law J. Rep. Q. B. 799; L. R. (1899) 2 Q. B. 193, was relied on.

The magistrate found as a fact that the basement and ground floor were intended to be used for the purpose of the trade of a beerhouse, and that the part above the ground floor was intended to be used as a dwelling-house for the licensed occupier. He held that the case was governed by *Carritt v. Godson*, and accordingly allowed the appeal and overruled the objection of the district surveyor.

H. E. Avory, K.C., and E. Rowsell, for the district surveyor. W. O. Danckwerts, K.C., and W. F. Craies, for the builder, were not called upon to argue.

The Court (Lord Alverstone, L.C.J., and Lawrance, J.) held that the magistrate was right; subsection 2 of section 74 was not intended to apply to the use of rooms in one dwelling-house partly for trade and partly for residence, the lower for the business of a beerhouse, and the upper for the domestic use of the beerhouse keeper. The reasoning of *Carritt v. Godson* supported this view.—*Law Journal*.

Contract : Sub-letting : Responsibility for Delay.

LESLIE AND CO. (LIMITED) v. THE MANAGERS OF THE METROPOLITAN ASYLUM DISTRICT.

This was an appeal by the plaintiffs from the judgment of the Divisional Court (Mr. Justice Bigham and Mr. Justice Phillimore) reversing an order made by Mr. Pollock, one of the Official Referees, reported in the JOURNAL R.I.B.A., Vol. VII. 1900, p. 283. The case came on in the Court of Appeal before the Master of the Rolls, Lord Justice Collins, and Lord Justice Romer. The following report is from *The Times* of the 30th April:—

The question in the case arose upon a contract entered into between the plaintiffs, Messrs. Leslie & Co. (Limited), and the defendants for the erection of a hospital for infectious fevers at Hither Green, Lewisham. A great part of the work had been let out to sub-contractors and experts, including Messrs. Doulton, of Lambeth, and Messrs. Berry & Sons, of Westminster. The question was who was to be responsible for alleged delay on the part of these sub-contractors? The contract between the plaintiffs and defendants was dated 23rd July 1895, and was contained in a volume which, with the specifications, covered 436 pages. It provided that the plaintiffs should, at their own cost, execute "the works" shown on the plans, including the chimney-stacks and heating apparatus mentioned below. The time in which the work was to be completed was two years, and the price to be paid was £210,688. The contract contained the following general clauses:—"33. The managers (the defendants) reserve to themselves the right to employ other parties to execute the works for which provisions are made, and to deduct the full provided amounts (i.e. the prime cost plus 10 per cent. thereon) from the contract sum. In such cases the contractors (the plaintiffs) are to allow such parties every facility for the execution of their several works simultaneously with their own. The managers are to be at liberty to omit any provisional sums or quantities. The contractors are to pay the sub-contractors the amounts provided in the contract for such purpose, or less or more as may be certified, and the payments thus made will be considered as work done by the contractors and will be included in the certificate to the contractors next following such payment. No payment is to be made to such sub-contractors except upon the architect's certificate. The contractors are to pay such amount as may be certified from time to time within seven days from the date of the certificate, and should the contractors neglect or refuse to make such payment within the stipulated period, the managers shall be at liberty to pay the amount direct to such sub-contractors and to deduct from the contract sum the gross amount which the contractors have included in their estimate in respect of such work and their profit thereon, the amount so to be deducted not being less in any case than such amount so certified. The contractors are to attend with all building trades upon the said sub-contractors, which is to include cutting away for the same and making good after the same, and allowing the free use of such plant, tackle, and scaffolding as the contractors may be using for their own purposes. Contracts will during the progress of the works be let to other persons for water and steam mains . . . and other works. The contractors are to allow such persons full opportunity to carry on their works simultaneously with their own." The contract also provided for the retention by the defendants of £10,000 as security for its due performance. Alterations and omissions from the specifications were to be allowed and made only on the direction in writing of the architect. Among the works to be erected were 29 chimney-stacks, and with reference to them a correspondence took place between Mr. Edwin T. Hall, the architect of the defendants, and Messrs. Doulton, as a result

of which a price of £137 10s. for each stack was named. The contract contained the following clause relating particularly to these chimney-stacks:—"The contractors shall provide the sum of £137 10s. prime cost for each central stack of flues in large wards above the level of the ground floor. These stacks will be of faience, fire-clay, terra-cotta, and concrete, and, including hearths, grates, &c., will be supplied, fixed, and finished complete by a specialist potter. The contractors are to supply all necessary scaffolding, plant, water, and hoisting." The plaintiffs then communicated with Messrs. Doulton, who undertook to do the necessary work. Part of the claim in the action arose from the alleged delay on the part of Messrs. Doulton in doing this work. A second head of claim arose from a sub-contract for the supply of the necessary steam and hot-water apparatus. The contract contained the following clauses relating particularly to this apparatus:—"The hot-water supplies to baths, lavatories and sinks, except where otherwise specified, the hot water, heating, &c., . . . will be done by specialists, but the contractors are to attend on, cut away for, and make good after them. The hot services will be brought by the specialists to the following points of outlet (specifying the same), but the valves thereon are to be supplied and fixed by the contractors. Note.—All hot-water services, as well as heating apparatus, . . . will be done by specialists." On 2nd February a sub-contract was made between the plaintiffs and Messrs. Berry & Sons, by which the latter agreed to supply this apparatus for £11,900. It was alleged that Messrs. Berry had also been guilty of delay in executing this work. The delays of the sub-contractors were owing to the difficult and special character of the work. Owing to these alleged delays the plaintiffs could not complete their works and get the architect's final certificate and payment accordingly. They therefore claimed damages on the footing that there was an obligation upon the defendants to see that the work was done by the specialists and sub-contractors within a reasonable time. The claim was referred to Mr. Pollock, one of the Official Referees, who considered the contract and voluminous correspondence involved in the case. Counsel for the defendants contended that they were not liable, on the ground that Messrs. Doulton and Berry & Sons were sub-contractors with the plaintiffs, and any claim for delay lay against them, and not against the defendants. The learned Referee held that the defendants were liable to the plaintiffs, and the defendants appealed from that decision to the Divisional Court, which held that the plaintiffs could not impose upon the defendants the consequences of the delay of the sub-contractors. The plaintiffs appealed.

Mr. R. M. Bray, K.C., and Mr. T. Ribton appeared for the plaintiffs; Mr. English Harrison, K.C., and Mr. Herbert Smith appeared for the defendants.

The Court, having taken time to consider, dismissed the appeal.

The Master of the Rolls read a judgment, in the course of which he said that it appeared from the contract and the specifications that the plaintiffs were to provide everything to make the hospital complete, and that, although specialists were to execute some of the works so contracted to be executed and provided by the plaintiffs, these latter works formed part and parcel of the entire works, for which the defendants were to pay the plaintiffs the sum of £210,688, the plaintiffs out of this sum paying the specialists. His Lordship then examined what took place with regard to Messrs. Doulton & Co., the arrangements with them having been carried through by Mr. Hall, the architect named in the contract, and having gone through the letters that passed between the parties, he said that he had come to the conclusion that the defendants could not be liable to the plaintiffs for the delays of Doulton & Co. The defendants had

never contracted with Doulton & Co. The persons who contracted with Doulton & Co. were the plaintiffs, and the plaintiffs alone. The defendants throughout studiously avoided contracting with Doulton & Co., who were sub-contractors of the plaintiffs or their agents. Doulton & Co.'s work was work which the plaintiffs had contracted with the defendants to provide for in the £210,688. The defendants never paid Doulton & Co. one penny for their work, and were never under any liability to do so. Doulton & Co. were paid by the plaintiffs, and by no one else. It seemed to him that the Divisional Court were quite correct in holding that the defendants were not liable to the plaintiffs for the delays of Doulton & Co. If anyone had a remedy against Doulton & Co. it was the plaintiffs, and not the defendants. It was said that the plaintiffs only contracted with Doulton & Co. so as to get rid of the necessity of the defendants having to obtain the consent of the Local Government Board to a contract between themselves and Doulton & Co., which would have been required if the plaintiffs had not contracted with Doulton & Co. However that might be, there stood the plaintiffs' undoubted contract with Doulton & Co., upon which beyond doubt the plaintiffs could sue Doulton & Co., and the defendants could not. It was next argued that if this was so and the plaintiffs sued Doulton & Co. for delays, they would do so as trustees for the defendants, and that if the plaintiffs recovered damages from Doulton & Co. they would have to hand over the damages recovered to the defendants. His Lordship did not agree. The truth was that there was no trust at all. How could the plaintiffs be trustees for the defendants for what they might recover from the specialists, their own sub-contractors, who were merely doing the work which the plaintiffs otherwise would have had themselves to carry out under their contract with the defendants? In his Lordship's opinion there was no substance in the contention. With regard to Messrs. Berry & Sons, the above remarks applied to their case, it being, if possible, a stronger case than Messrs. Doulton & Co.'s against the plaintiffs' contention. The appeal must, therefore, be dismissed with costs.

The Lords Justices delivered judgments arriving at the same conclusion.

MINUTES. XII.

SPECIAL GENERAL MEETING.

At a Special General Meeting convened by the Council on the requisition of twelve subscribing members, and held Monday, 29th April 1901, at 8 p.m., Mr. E. A. Gruning, *Vice-President*, in the Chair, with 19 Fellows (including 3 members of the Council), 45 Associates (including 2 members of the Council), the Minutes of the Meeting held 22nd April 1901 [p. 304] were taken as read and signed as correct.

The Chairman having announced that the Meeting was summoned to discuss a series of resolutions to be submitted by Mr. Wm. Woodward [A.] with reference to the proposal for obtaining designs for the National Memorial to Queen Victoria, the Secretary read letters on the subject from Mr. Wm. Emerson, *President*, Mr. Macvicar Anderson, *Past President*, and Messrs. Philip A. Robson and J. Coulson Nicol, *Associates*.

Mr. Woodward having read and spoken to his resolutions, the Chairman directed that they be moved and discussed *seriatim*, whereupon Mr. Woodward moved his first resolution—viz. That in the opinion of the Meeting the proposed National Memorial to Queen Victoria should be open to the competition of all British (including, of course, Colonial) architects, sculptors, and artists.

The motion having been seconded by Mr. O. C. Wylson [F.], an amendment in the terms of the resolution set out below, proposed by Professor Beresford Pite [F.] and seconded by Mr. H. V. Lanchester [A.], was discussed, and Mr. Woodward having withdrawn his resolution, Professor Pite's amendment was put from the Chair as a substantive motion, and it was

RESOLVED, That considering the deep and widespread interest manifested throughout the Empire in the proposed National Memorial to Her late lamented Majesty Queen Victoria, and in view of the limited opportunities for the exercise of monumental design in London that have been offered during recent years, and the absence of useful precedents, this Special General Meeting of the Royal Institute of British Architects, of which Her late lamented Majesty was Patron throughout her long reign, respectfully urges upon the executive committee of the National Memorial its earnest conviction that designs should be invited in open competition from all British architects for this most important and unique monument, which, it hopes, would thus become representative of the best and most enthusiastic efforts of modern monumental architectural art. And further, this Meeting would suggest to the executive committee the necessity of affording sufficient time for the preparation and submission of designs by architects resident in all parts of the Empire, of whom many are members of this Royal Institute.

The proceedings then closed, and the meeting separated at 9.30 p.m.

ANNUAL GENERAL MEETING.

At the Sixty-seventh Annual General Meeting (the Twelfth General Meeting of the Session), held Monday, 6th May 1901, at 8 p.m., Mr. William Emerson, *President*, in the Chair, with 18 Fellows (including 8 members of the Council), and 12 Associates (including 1 member of the Council), the Minutes of the Special General Meeting held on the 29th April having been read, the President stated, in reply to Mr. William Woodward [A.], that the Resolution passed at that Meeting would be forwarded to Lord Esher on the following day. The Minutes were then signed as correct.

The President expressed his acknowledgments to the Institute for the honour done him in nominating him to the office of President for a third year.

The Hon. Secretary announced the decease of Professor Victor Schröter (*Hon. Corr.M.*, St. Petersburg), and an expression of the Institute's regret at the loss thus sustained was ordered to be entered on the Minutes.

Messrs. John and Joseph Leeming, *Fellows*, attending for the first time since their election, were formally admitted and signed the Register.

The Report of the Council for the official year 1900-1901, a copy of which had been previously issued to every member resident in the United Kingdom, having been submitted and taken as read, its adoption was formally moved by the President and seconded by Mr. Edw. A. Gruning, *Vice-President*, whereupon a discussion ensued, in the course of which an amendment moved by Mr. Lacy W. Ridge [A.] and seconded by Mr. W. Hilton Nash [F.]—viz. that the paragraph relating to the question of architects' names appearing on advertisement boards be omitted from the Report—was put from the Chair, and negatived. A further amendment having been proposed by Mr. H. Hardwicke Langston [A.] and seconded by Mr. E. W. Hudson [A.]—viz. that as the General Body had had no voice in the appointment of the representatives referred to in the first two paragraphs on page 61 of the Report, the

statement was inaccurate that they represented the "Institute," and that the word "Council" should be substituted in each case—the President ruled that the Council were empowered by the Charter to make such appointments on behalf of the Institute, and declined to put the amendment. The motion for the adoption of the Report was then put to the Meeting, and it was

Resolved, that the Report of the Council for the official year 1900–1901 be approved and adopted.

The Auditors' Report, having been read, was ordered to be printed and appended to the Report of the Council.

A vote of thanks having been passed by acclamation to Messrs. W. Hilton Nash [F.] and Herbert A. Satchell [A.], Hon. Auditors for the past year, the same gentlemen were nominated to the office for the ensuing year.

The lists of attendances at the several meetings of the Council and Standing Committees during the official year having been submitted and taken as read [see *Supplement*], the Council were authorised to appoint Scrutineers to direct the election of the Council and Standing Committees for the ensuing year of office, and report the result thereof to the Business Meeting of the 3rd June.

The existing members of the Statutory Board of Examiners were reappointed to the office.

The following candidates for membership in the various classes, found by the Council to be eligible and qualified according to the Charter and By-laws, and admitted by them to candidature, were recommended for election:—
As FELLOWS, Joseph Compton Hall, Harry Bell Measures, Ellis Herbert Pritchett, F.S.I. (Swindon, Wilts), Nathaniel

Young Armstrong Wales (Dunedin, N.Z.); As ASSOCIATE, James Andrew Minty [*Qualified* 1885]; As HON. CORR. MEMBER, Sainte-Marie Perrin (Lyons).

The following candidates for membership were elected by show of hands under By-law 9, viz.:—

As FELLOWS (3).

HIPPOLYTE JEAN BLANC, R.S.A., F.S.A. Scot. (Edinburgh).

CHARLES FITZROY DOLL.

EDMUND HAROLD SEDDING (Plymouth).

As ASSOCIATE.

ROBERT DOUGLAS WELLS, B.A. [*Probationer* 1898, *Student* 1898, *Qualified* 1900].

Mr. Lacy W. Ridge [F.], in accordance with notice, moved, and Mr. H. Hardwicke Langston [A.] seconded, the following resolution—viz. "That in the opinion of this Meeting it is not desirable that By-law 26 be repeatedly suspended. The Royal Institute looks to the Council to put forward each year a nomination for the Presidency in accordance with the constitution of the Institute as laid down in the By-laws." The matter having been discussed, and further proceeding with it deprecated, Mr. Ridge, while reiterating his objections to the repeated suspension of the By-law, withdrew his resolution.

The proceedings then closed, and the Meeting separated at 10.15 p.m.

THE HIGHER EDUCATION OF ARCHITECTS.

By ARTHUR CATES [F].

VII. LE DIPLÔME D'ARCHITECTE; L'ARCHITECTE DIPLÔMÉ PAR LE GOUVERNEMENT FRANÇAIS.

MÉDAILLE DE LA SOCIÉTÉ DES ARCHITECTES DIPLÔMÉS PAR LE GOUVERNEMENT.

ŒUVRE DE M. LOUIS BOTTÉ.



LA SOCIÉTÉ

HONORE ET ENCOURAGE LES HAUTES ÉTUDES D'ARCHITECTURE.

THE great interest which has been manifested in the short notice of *Le Diplôme d'Architecte* given at the end of the preceding article on the École des Beaux-Arts (No. V. of the series, p. 196), and no less so the recent active revival of the agitation to obtain in this country legislation for the registration of architects, and the energetic methods of propaganda adopted by the advocates of this remedy for all the ills under which the profession of architecture is supposed to suffer, render it desirable that more extended particulars relating to the diploma should be included in this series, as most closely affecting the object which it has in view.

The desirability of a diploma which should bear testimony to the ascertained and ascertainable qualifications of an architect had for many years been canvassed in France, and in 1847 had reached so advanced a stage that the Minister of Public Works had drawn up for signature by the King, Louis Philippe, a royal decree for the organisation of the *personnel* attached to his department and of the body of architects. The Revolution of 1848 put an end to this scheme.

But little progress was made till M. Adolphe Lance in 1854 and 1855 published in successive numbers of *L'Encyclopédie d'Architecture* a series of articles entitled "Du Diplôme d'Architecte." It was the perusal of these articles by the present writer which led to the drawing up of the Memorial of the Architectural Association to the Royal Institute of British Architects, presented to the meeting of 8th December 1855, praying that body to establish an examination for students which would afford them a satisfactory test of qualification, and eventually serve as the basis for the issue of such a diploma as would certify that the holder thereof is fully qualified to practise as an architect. This Memorial is printed in full at the end of the present article.

These articles on "Le Diplôme" were published by M. Lance in a collected form, and the pamphlet containing them was widely circulated, and may even now be usefully referred to for reliable information respecting the desirability and characteristics of a diploma.*

* Lance, Adolphe: *Du Diplôme d'Architecte*. Paris, 1855.

On 19th November 1855 J. W. Papworth [F.] read to the Institute a Paper on this pamphlet of M. Lance.* At the discussion thereon the Memorial of the Architectural Association was read, and in the result a strong movement was originated, which, after the lapse of many years, resulted in the establishment of the present Examination in Architecture qualifying for admission as Associate of the Royal Institute of British Architects. Thus those who now so greatly benefit by the course of education necessary to enable them to pass this examination are actually indebted to the labours of M. Lance, by which the first impetus in this country was so long since given to the movement which has produced such satisfactory results.

The questions of *L'enseignement de l'Architecture : hautes études et enseignement professionnel* : have always taken a prominent place among those discussed at the International Congresses of Architects. At the Fifth Congress, held in Paris from the 30th July to 4th August 1900, M. Pillet, Professor of Descriptive Geometry in the École des Beaux-Arts, contributed a remarkable paper,† in which he indicated the organisation of a country with a population of forty millions, with 7,000 architects, 100,000 contractors, 1,500,000 workmen, and in which the architect must be not only an artist, but a man of learning and a man of science.

Assuming twenty years as the average duration of a professional life in full practice, 850 architects must be completely trained every year. Of these M. Pillet estimated that 100 should be the result of the higher education, 200 of secondary education equivalent to pupillage, and the remainder be produced by that method of assimilation which a sound system should almost eliminate.

The whole system of organisation, building up the scientific, technical, and artistic education, and bringing forward the most capable to receive the highest instruction, was detailed with extreme care by M. Pillet, and when the Paper is published in full it will be of great service in aiding the development of education here.

At the Fourth International Congress of Architects, held at Brussels, 28th August to 7th September 1897, one of the questions for consideration was, *Faut-il un diplôme d'architecte ?*

The subject was opened in an exhaustive Paper by M. Louis Bonnier, delegate of the Société des Architectes Diplômés par le Gouvernement Français, and now President of that body.

This Paper, with the discussion and copious

appendices, giving at length the entire course of instruction at the École des Beaux-Arts to obtain the "Diplôme d'Architecte," is printed in the report of the Congress, and, with the discussion thereon (pp. 191-257), merits careful perusal and study.*

In that discussion M. De Becker (pp. 221-245) reviewed the whole question of the diploma, historical and educational, and advocated the institution of an obligatory diploma saving the rights of architects in practice; but this could only follow the establishment of a thorough system of professional and artistic education, which he indicated in some detail. This report of M. De Becker will remain one of the most valuable documents for reference in considering the subject of a diploma.

The Congress unanimously agreed to two resolutions :

1. A diploma of architect should be established, but at least in the first instance it should not be obligatory.
2. The Architectural Societies should unite and conduct an energetic campaign to obtain from their Governments the institution of the diploma.

At the Fifth International Congress of Architects, held in Paris 1900, a resolution was unanimously adopted (*Compte Rendu* p. 32) to the effect :

That Governments should take steps to protect and secure respect for the title of architect, by reserving it for the future, and without any retrospective action, for architects provided with a certificate of capability, or by forbidding its use by others; and, further, should place such certificate within the reach of all by the spreading of special architectural education and training.

M. Bonnier disclaimed any desire that the diploma should be obligatory, as many reasons combated the adoption of so narrow a view, and he admitted that most serious studies might not need official recognition, and that one individual, gifted with special endowments, might develop great talents without that support; but he argued that, in the majority of cases, it was well that public departments and administrations, and the public itself as individuals, should have some means of distinguishing the real architects from those who, by the aid of others or by self-assertion, assumed a title to which they too often did little honour.

In 1840 some of the most distinguished of French architects appointed a committee to consider what steps should be taken, or demanded from the Government, to provide a remedy for the inconveniences which arose from the absolute

* Papworth, J. W.: *An Abridgement of M. Lance's Essay entitled "On a Diploma in Architecture," with Remarks and Suggestions.* (Papers read at the Royal Institute of British Architects, 1855-56, pp. 23-47.)

† 5^e Congrès International des Architectes tenu à Paris du 30 juillet au 1^{er} août 1900. *Procès-Verbaux Sommaires.* Par M. J. M. Poupinel. Paris, MCMI. P. 19.

* Congrès International des Architectes, *Compte Rendu de la Quatrième Session tenu à Bruxelles du 28 août au 2 septembre 1897.* Ed. Lyon Claesen. Bruxelles et Paris.

freedom by which anyone could assume the title of architect, and exercise the functions of that profession. From this the Société Centrale des Architectes was established. In 1843 the creation of a diploma, obligatory on all architects, was proposed. The discussion of this resulted, in 1846, in the recommendation that "the creation of a diploma is necessary, and it shall be an obligatory qualification, authorising the use of the title of architect."

"The diploma to be granted by examination—from which there should be no exemption.

"Temporary measures to be taken for the preservation of existing rights and positions.

"The diploma to be granted by the Minister of the Interior or of Public Works.

"The diploma not to be obtainable under thirty years of age."

These labours would have borne fruit, and possibly the State would have established a diploma or certificate of capability which would alone give to its possessor the legal right to take the title and exercise the functions of an architect, whether for private clients or public departments; the Revolution of 1848, however, intervened, and ended the matter for the time.

The further discussion of the subject through successive years led to the conclusion that the diploma should be optional, and only imperative for architects employed by the State, important public bodies, and the tribunals.

In 1855 the articles and pamphlet of M. Lance revived the discussion; but opinion was greatly divided on the question of making the diploma obligatory; and, after the reorganisation of the École des Beaux-Arts in 1863, representations to the Emperor Napoleon III. and the Minister of Fine Arts led to the institution, in 1867, of the Diploma, as the crowning honour and culmination of the course of study of architecture in the École, but not as an obligatory condition for the practice of architecture.

The first examination was held in July 1869, when four candidates were successful; but up to and including 1876 only ten diplomas had been granted. This remarkable result of the establishment of a distinction so long and so earnestly desired may have partly resulted from the events of 1870, and also from the fact that the Diploma, the result of long years of earnest study, did not confer any privilege in the exercise of the profession, and did not even assure any advantage to those who possessed it. The Diploma was also violently attacked as being the extreme glorification of an exclusive system of teaching rather than a guarantee of professional capability. The holders of the diploma, at first few in number, recognising that *L'union fait la force*, combined, and by insistent endeavours in 1875 obtained from the Minister of Public Instruction recognition of the studies it necessitated.

The persistent action of the Société des Architectes Diplômés par la Gouvernement obtained in time more substantial recognition of the professional position of its members. Thus, the Préfet de la Seine, on 30th January 1885, directed that holders of the Diploma under thirty-five years of age should be admitted without examination to the appointment of *sous-inspecteurs de troisième classe* of the *Direction des Travaux de Paris*, provided that those so appointed did not exceed one-third of the whole number of that class.

In 1891, by a decree of the President of the Republic, the service of architecture of the Minister of Public Works for civil buildings and the national palaces was reorganised in the following ten grades: *Les Inspecteurs Généraux*; *Les Architectes en Chef*; *Les Inspecteurs aux Grands Travaux*; *Les Inspecteurs à l'Entretien*; *Les Sous-Inspecteurs aux Grands Travaux*; *Les Contrôleurs*; *Les Vérificateurs*; *Les Conducteurs de Travaux*; *Les Dessinateurs*; *Les Jardiniers*.

The *Sous-Inspecteurs aux Grands Travaux* are appointed by competition under the direction of the *Conseil Général des Bâtiments Civils*, in which the works of the candidates and the diplomas and prizes, especially at the École des Beaux-Arts, are taken into consideration—particularly the Diploma.

The Society further takes steps to keep before the official hierarchy, under whose influence and control so much of the architectural work of France is placed, the merits and qualifications of its members as manifested by the holding of the Diploma, which is the result of long and serious studies in the École des Beaux-Arts, specially qualifying its holders to undertake important public works; chiefly by annually sending a circular to this effect (with a list of members) to the Presidents of the General Councils of each Department, and to the Prefects of the Departments, also to the Mayors of all the towns in which members are resident; and they are justified in taking this course by circulars issued by the Minister of the Interior in October 1869 and October 1871 to the Prefects of Departments, and in 1872 to the General Councils of Departments, desiring that favourable consideration should be given to architects holding the Diploma.

In Article V. of this series—*L'École Nationale et Spéciale des Beaux-Arts, Paris, Section d'Architecture*, p. 196—a short notice is given of the conditions under which the Diploma may be obtained, and most complete details of the entire course are given by M. Guédy in his recently published comprehensive account of the Architectural Section of the École, which occupies 472 pages,* and in the appendix to the Paper by M. Louis Bonnier, *Faut-il un Diplôme d'Architecte*,

* Guédy, Henry, *L'Enseignement à l'École Nationale et Spéciale des Beaux-Arts, Section d'Architecture*. Paris, 1899.

pp. 420-508 of the *Compte Rendu* of the Fourth International Congress of Architects, Brussels, 1897 (*op. cit.* p. 258), details of which a general idea is given in p. 196 *ante*, but of which the fullest particulars will be found in the two works last cited. It is only by a careful examination of such details that a true appreciation can be attained of the long, severe, and effective training essential to the obtaining of the Diploma.

The Diploma is not to be gained by one spasmodic effort made at the close of a lightly considered course; it is the culmination of a long series of stages of education, in each of which a certain distinction must have been obtained.

Admission to the examination for the Diploma is only granted to students of the *École* who have obtained not less than ten "valeurs" (*vide* p. 194) in the first class, either in the competitions in architecture or for the Rongevin or Godebœuf prizes; also at the least a "mention" in the competition on the History of Architecture, one "valeur" for figure drawing, and one "valeur" for ornament or figure modelling. Candidates must also produce a certificate that they have diligently attended, for at least one year, works of construction under the direction of an engineer of the State, of an architect of the Government, or some public or private administration.

There is no limit of age for entrance to this examination, but the requisite "valeurs" must be obtained before the age of thirty years.

The examination is in three parts—written, graphic, and oral. That in writing is devoted to the working out of two questions, one relating to building law and the other to the practical execution of works and the use of materials in construction. To each question two hours is allotted. The graphic test is a design in architecture, conceived and carried out as for actual execution: it comprises the plans, sections, elevations, all details of construction, a descriptive memoir and specification, and quantities and estimate of part of the construction.

The successful designs are now published in a collected form, of which two volumes have appeared, each containing about 250 phototypes.*

The subject and programme of the design may be selected by the candidate, subject to the approval of the Jury of Adjudication, who may reject it, or modify its construction, and fix the scale at which it shall be carried out. The programme, once approved, cannot be varied by the candidate. The work may be carried out either in the *École* or outside, and there is no limit of time for its execution.

The oral examination is in three sections:

1. The theory and practice relating to the design

* *Les Diplômes d'Architecte: Concours de l'École Nationale des Beaux-Arts. Projets d'Architecture des Élèves de l'École, donnant droit au titre officiel: Architecte Diplômé par le Gouvernement Français.* Paris.

submitted by the candidates; questions and discussions on the materials employed in the construction.

2. Questions on the history of architecture, with particular relation to the style selected.
3. Questions on the laws affecting contracts, architect and client, owner and workman, easements, party walls, light, &c., private right, health, dilapidations, &c., drainage, dangerous structures, building regulations. The law affecting public works, finance, expropriation, accounts.
4. Questions on the elements of physics, chemistry, and geology, as applied to construction.

For details of these examinations *vide* M. Guédy, *op. cit.*, pp. 374-88.

The adjudication is made by a jury specially appointed annually, composed of two professors of architecture (*chefs d'atelier*) of the *École des Beaux-Arts*, chosen by lot; two professors, heads of external ateliers, also chosen by lot from the members of the permanent jury of architecture; the professors of the theory of architecture, of construction, of physics and chemistry, and of building legislation.

The course of study necessary to warrant the student in entering on the competition for the Diploma is thus summarised by M. Bonnier:

One year at least must be devoted to preliminary studies in order to obtain admission to the *École*; two or three years must be passed in the second class; two years or more in the first class; and at least six months in the preparation of the first design and essay: time equivalent to one year must also have been spent on actual works.

Thus the acquisition of the Diploma demands not less than six years of continuous serious study, and sufficiently ample means to render it unnecessary for the candidate to prolong the period of his studies by devoting any portion of his time to earning money by assisting older architects in their work; and one year at least beyond those mentioned must have been spent on actual work where knowledge of practice and construction can be obtained.

But the elasticity of the organisation of the *École* and the freedom of study which it allows permit the student to spread his work over a much longer period, during which he may spend half his time as an assistant in an office, may have travelled far and wide, may have been engaged in decorative work or other improving and profitable occupation, making it even ten years or more from entry into the *École* before he obtains the Diploma.

The *Société des Architectes Diplômés par le Gouvernement*, founded in 1877, has for its objects:

1. The encouragement and reward of the higher studies of architecture in their artistic and archaeological relations, and aiding their progress by competitions and exhibitions.

2. The making generally known in the public interest the importance and value of the higher studies carried on at the École des Beaux-Arts, which lead up to the Diploma.
3. To aid and assist its members in need by pecuniary grants and pensions.

In 1893 the Society founded a medal, reproduced at the head of this article, to be awarded each year to an "architecte diplômé" still a pupil of the École who shall have gained in the scholastic year the greatest number of "valeurs" since obtaining the Diploma.

Notwithstanding the severity of the tests required for the Diploma, the growth of the Society has been very rapid. In 1898 it numbered 899 members, and now approaches 500. In 1900 the Diploma was gained by 98 candidates, and the normal number annually will now exceed 100.

The members occupy distinguished positions as professors of architecture in Paris and the provinces, architects of the Government, inspectors of civil buildings, diocesan architects, architects and inspectors of the city of Paris, of the prefecture of police, Departmental architects, &c. And of the twenty-four architects engaged on the Exposition of 1900, seventeen held the Diploma; and of the eight members of the "Institut" all are *diplômés*. The future of this distinction is thus well assured, and must have great influence on education.

The "Grand Prix de Rome" confers the title of "Architecte Diplômé" as a matter of right without examination.

M. Bonnier, in closing his Paper, well summed up the position thus: "The Diploma in France serves as a common bond of union, and a mark for those who by their studies may be regarded as really architects, among whom there are many more or less favourably endowed with talents. An 'Architecte Diplômé' is not necessarily a man of exceptional ability. There are only a few men of genius in each generation, and among these does there ever exist the universal, omniscient, complete genius? There is not, nor ever will be, a perfect architect. Every day there is some new fact, some new process to master; new materials, new applications are continually discovered; new demands and necessities, and the application of architecture thereunto, advance with all social progress, and the Diploma can only indicate a man whose studies have qualified him to successfully follow these movements, and to conform with intelligence to their requirements. The title of 'Architecte Diplômé par le Gouvernement' has in France begun to take its place in current usage and to be duly recognised in the world, and may well be adopted in other lands; but it should not be made obligatory—that which is arbitrary is bad. It should only be granted as the result of the most serious and most complete studies in art and in construction. There should be

no half-and-half measure—no 'shoddy' qualification. But, having once created the Diploma, obtained the protection of the State, above all endeavour to establish its authority before the public and official departments by the value and importance of the essential acquirements which it implies, which alone can secure for it due appreciation."

The following is the Memorial of the Architectural Association read at the Meeting of the 3rd December 1855:

TO THE PRESIDENT AND COUNCIL OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE MEMORIAL OF THE ARCHITECTURAL ASSOCIATION.

MY LORD AND GENTLEMEN,—Your memorialists, representing the younger members of the architectural profession, beg to lay before the Royal Institute of British Architects their desire for the establishment of an examination, which may eventually serve as the basis for the issue of such a diploma as shall certify that the holder thereof is fully qualified to practise as an architect.

They have been induced to take this step from the consideration of the difficulties which in the present day beset the early stages of architectural education.

In preparation for entrance upon their articles, in studies during the period of their sojourn in an office, and in the critical interval from the completion of their articles to the moment of commencing practice, the students of architecture are without sufficient guidance. In no case have they that important and valuable direction given to their several studies which is found to be so successful an inducement to the complete mastery of other professions; and this evil produces its more important effects when students of architecture, having completed their articles, commence practice on their own responsibility.

The want of proper knowledge on the part of the architect, combined as it is with a want of information on the part of the public, leads to many of the anomalies which are now so frequently observable in the practice of the profession, and to the presence in its ranks of many who have not the power, and in some cases of those who have not the will, to uphold its credit.

So much attention has been lately turned towards the necessity of testing by examination the competency of all candidates for public employment, that your memorialists are led to submit that the present is a highly opportune period for bringing the subject under your consideration. They feel that they are addressing those who represent the architectural profession, and by whom only an authoritative step towards the establishment of an examination, or the granting of a diploma, could be taken. They are also assured that the senior members of the profession could hardly take the initiative till the necessity for that course had been brought before them by those who have more recently entered the profession.

Your memorialists do not feel themselves called upon to enter into further details, because they are convinced that the members of the Institute must, from their position, be fully cognisant of the evil results of the present system; and therefore do not doubt that the Council will take an early opportunity of organising an examination such as shall be found best calculated to aid and direct the student, and to bring the real qualifications of the architect before the public.

ALFRED BAILEY,
President of the Architectural Association.



THE SOURCES AND GROWTH OF ARCHITECTURE IN EGYPT.

By PROFESSOR W. M. FLINDERS PETRIE, D.C.I.

Read before the Royal Institute of British Architects, Monday, 20th May 1901.

PROBABLY no subject of history or art has made a greater advance in the last few years than Egyptology, in our knowledge of the rise of the civilisation. The reason is very simple. For a lifetime past the country had been a close preserve in which no independent work was allowed; but the first year that we won our way into Upper Egypt we fixed the Mykenæan Greeks to 1450 B.C.; the second year produced the archaic statues of gods of the beginning of history; the third year revealed the whole prehistoric civilisation. Each year since has given fuller results, until now we know more details of the origins of the arts in Egypt than in any other land.

In no respect is our view more enlarged than in the architecture. Ten years ago we were starting with the most highly-finished work of the Fourth Dynasty, the great pyramid of Khufu, and were groping in the dark for any clues to the growth of such surpassing construction. To-day we can show how every feature arose, and we can date to a single generation the adoption of stone for building.

I propose first to notice the use of unwrought materials, and the forms which result from such; then the use of wrought wood; of stone, rough and wrought; and lastly, the development of pillars.

The unwrought materials, which were everywhere to hand in Egypt, were palm-ribs, papyrus, reeds, maize stalks, and mud, together with palm-fibre roughly twisted. At the present day a native sets up a row of maize stalks for a fence, binding them by weaving some stalks in and out in opposite directions along the upper part. Needing a closer line for shelter, he places the stalks touching, and lashes on some cross stalks by means of palm string. This stage is seen in an enclosure in a scene on the great mace head of Narmer (4800 B.C.). To keep out the wind this wall of stalks is plastered with mud, and so a hut is formed.

A striking sight of the beginnings may be seen any day in a nomad settlement on the desert edge. Side by side stand (1) a black goat-hair Arab tent, long and low, open always on the leeward side; (2) a tent fenced along part of the open side with a row of maize stalks; (3) a tent fenced all round with maize; (4) a tent in a maize fence mud-plastered; (5) a dwarf wall of brick round the fence; (6) a high brick enclosure with a tent inside to roof it, the tent ropes stretching out through the wall; lastly, a roof is put on the wall, and the tent has disappeared.

The early Egyptians seem, however, to have usually roofed their reed huts with domed roofs, to judge by the engraving of a hut on ivory, at the rise of the First Dynasty (4800 B.C.),

where the upright sides, doorway, and hemispherical roof are well shown [fig. 1]. The construction of the roof is probably preserved to us in the Bisharin tents at Aswan, where palm-ribs form the curved framework, covered by palm-leaf mats. That such mats were familiar in early construction is shown by the impressions in mud plaster at the roofs of the royal tombs, as we shall notice below.



FIG. 1. REED HUTS.

The next feature is the strengthening of the corners of the hut, by placing at each angle a bundle of reeds lashed together, as seen in the hut on the mace of Narmer. Here we have the origin of the torus-roll down the edges of the buildings, used till the latest stage of the architecture. The lashing together was always retained as an ornament, although the meaning of the roll was long lost. Here, then, the reed hut is essential to understand even the most decadent architecture.

When papyrus stems were used for walling, instead of reeds or maize stalks, the top was rather weak if stripped of its leaves; hence they were retained and bound together, and the feathery tops served as a barrier above the wall, and finally as an ornament. Supposing a hut framed thus of papyrus, with roofing of papyrus stems, lashed into the heart of the leafage on each stem, we should have a wall such as is here shown. This was actually used for the light cabins of boats, as we see on some scenes at Saqqara in the Fourth Dynasty [fig. 2].

From the size of these cabins they must be very light to be placed thus on a papyrus boat, and the top ornament can have been nothing very solid or heavy. Then this decoration was transferred to wall surfaces, along the top of which it commonly appears, usually striped in light and dark green.

Besides these materials, palm-ribs may be seen still used for fences. They are set upright with all the leaves on them, at a few inches apart, and strengthened by other ribs interwoven diagonally each way; just below the weak part of the tip a line of ribs is lashed on with palm-fibre, and the loose nodding tips serve as an effectual barrier to men and animals.

The whole is finally plastered with mud up to the top lashing, and forms a very strong

fence, which will last for many years. Such a fence or wall shown in the diagram [fig. 3] is figured as the front of an early shrine hieroglyph in the Fourth Dynasty, where the diagonal cross ribs, the tie roll near the top, and the loose tips forming the cornice may all be seen.

Translated into stone, this became the constant feature of every Egyptian building, and this cornice retained to late times the palm-leaf ribbing which proclaimed its origin. Not only was the external pattern retained, but the structural nature of the cornice was observed even in Roman times. The flat roof behind it was originally, of course, at the level of the lashing, below the loose drooping tops; and the stone roof is always kept to the level of the base of the cornice, which stands as a parapet around the roof. This cornice has travelled far, and survives still in our modern furniture.

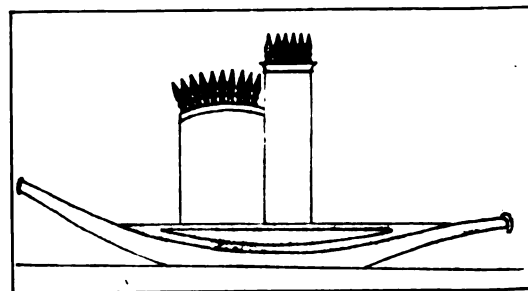


FIG. 2. PAPYRUS CABINS AND BOAT.

We have preserved to us some views of simple shrines made of the natural materials, similar to the huts of maize stalks still used by the peasant [fig. 4]. In this simple hut we note the roof sloping backward, and carried on far before the open front, so as to cast a shade, while it is supported on two front pillars of stalks. This was the original type of the rustic shrine adopted as a hieroglyph, and preserved to us from the Fourth Dynasty. The front has the reed pillars carried up higher; the projecting roof is shown by the ends of the roofing sticks, and a low fence of sticks, lashed together, defended the sacred place from intrusion by animals. This figure survived in the writing for three thousand years, but was corrupted by drawing a doorway in the side of it. Other sacred enclosures and shrines are figured on the early tablets, such as the ebony tablet of King Mena.

Not a single point that I have here described was known ten years ago, and as more than half the illustrations are quite new to the subject, I have here recapitulated what has been gradually discovered in late years.

The next material to be noticed is mud-brick, one stage beyond the rough mud plastering. The Nile soil naturally dries in the early summer until wide cracks, running many feet deep

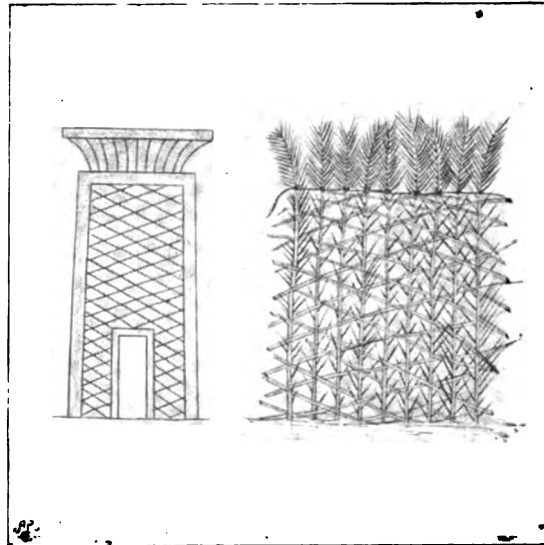


FIG. 3. PALM-RIB FENCE AND EARLY SHRINE.



FIG. 4. MODERN HUT, LIKE EARLY HIEROGLYPH.

in the ground, are formed in all directions in the fields. The roughly cubic masses of black clay break loose, and are commonly lifted out and built into temporary walls and boundaries. Here natural bricks are before us, and the drying of the mud in uniform blocks on the surface is not a great or difficult step forward into brickmaking. Brick houses and town walls remain from the prehistoric age, probably about 6000 B.C.; and a model of a town wall, with watchmen looking over it, belongs to a rather earlier time. Possibly the latter might be copied from a

piled mud wall, for at the present walls are often built of mud, laying a few inches every three or four days, sometimes steadying the whole by palm-ribs in the heart of the mass.

Regular brickwork developed in use in the prehistoric time, and some arched brick tombs are probably of this age. There can, however, be no doubt of the barrel-vaulted passage [fig. 5] in the tomb of King Neter-khet (found this year) belonging to the beginning of the Third Dynasty (about 4200 B.C.), and the magnificent brickwork and arching of the Sixth Dynasty (about 3400 B.C.) shows a long familiarity and free use of it.



FIG. 5. EARLIEST DATED ARCH. SECOND DYNASTY.

The stability of crude brick is aided by the external batter of the wall, which was generally adopted. In order to build this the easier, the bed of the wall was curved, so that all the quasi-horizontal lines were spheric coats around a point high up, to which the wall faces converged. This batter of the brickwork is continued in all the subsequent stone work, and it became in later times a great source of weakness when inclined walls of pylons were filled with mere chip stuff, as in the pylons of Karnak.

An inexplicable use of this batter was in building town walls. Such are

often described as "wavy," but the method was to build blocks of brickwork about equal in each dimension: each face of the block had a batter, and the bed of the courses was curved. Then the spaces between the blocks, each about equal to a block, were filled with horizontal courses. Thus the wall when complete was in alternate sections, horizontal and saucer-shaped.

Coming now to wrought materials, wood was the earliest in use for construction. The prehistoric graves were often lined with matting, and this was, in the later prehistoric, sometimes supplanted by a wooden lining. The wood first came into use as a tray or bier, on which the body was placed, and which filled the floor of the grave. In some of the later prehistoric graves, and constantly in the royal tombs of the First Dynasty, we see that a lining of wooden boards covered the sides, and the drawing of this is fortunately preserved as a wall decoration painted round the lower part of the tomb of Merab, son of King Khufu (3950 B.C.) [fig. 6].

In the royal tombs at Abydos (4700-4500 B.C.) all of the wooden sides have been destroyed; but the evidences remain most clearly on the cross walls that were built to form cells around the wooden chamber, for the offerings. These walls are plastered and white-

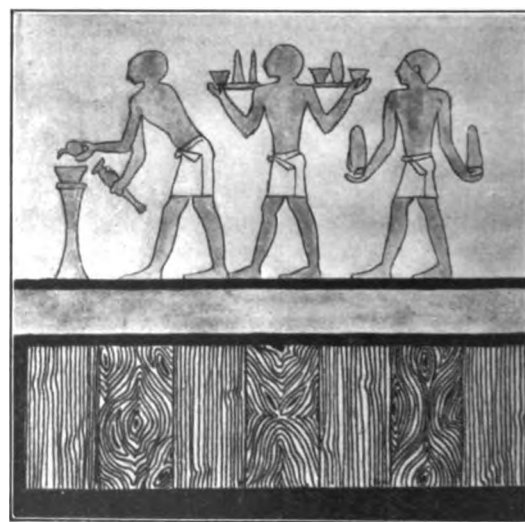


FIG. 6. WOODEN LINING PAINTED.

washed on the sides, but the ends are all rough brick, evidently built against a pre-existing timber wall, as the mud mortar has taken the cast of the grain of the wood wherever it touched it. The timber chamber varied in arrangement with the brickwork, sometimes having brick cells around it, sometimes a brick wall built close to it. The foot of the side boards rested on a beam about 10 inches square, with one edge rabbeted out to receive the foot of the boards and the ends of the floor planks.

The floors of the royal tombs were usually of wood: one of the most complete shows the boards about 2 inches thick, resting on beams at the sides and down the axis of the chamber. The roofing of these tombs was also of wood, as in some cases the

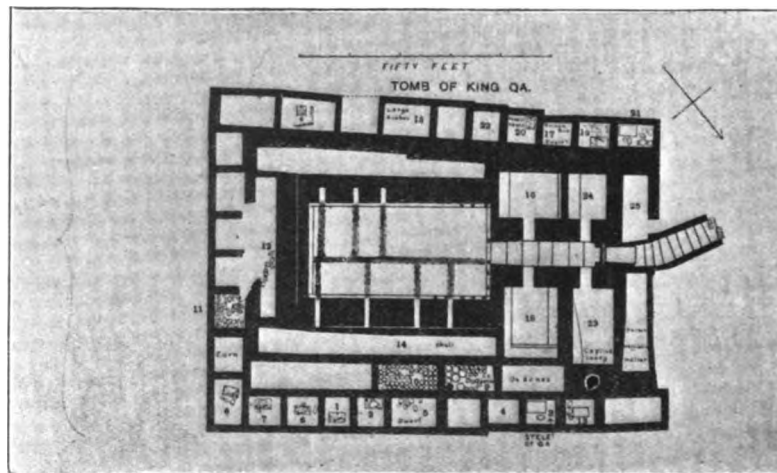


FIG. 7.

ends of the roofing beams remain in the brick walls of the chamber. In the tomb of King Qa the beam holes are not opposite to each other, proving that the beams did not run across, but rested on a main beam; and the place of this was not in the axis, as there is a post-stump in the ground, in line with one side of the doorway, and the beam holes are longer on one side than on the other. The holes in the wall are so long that it is hardly to be expected that single beams would reach the whole way, as the chamber is 19 feet wide. The longer beams seen on the floors are $17\frac{1}{2}$ feet.

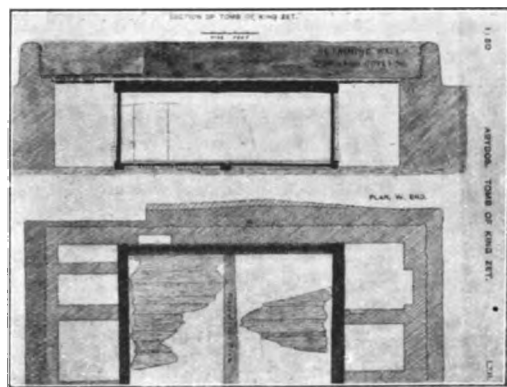


FIG. 8. TOMB OF ZET. FIRST DYNASTY.

The tomb of King Zet (4600 B.C.) is the one which demands most in the roofing, as it is 20 feet between the cell walls; and there is no trace of a support in the middle, although the floor is preserved in part. The tomb of Zer (4650 B.C.), his predecessor, is wider, being about 28 feet across, but it has been so altered in later time that there is no proof of its having been covered in one span. Taking the tomb of Zet, with 20 feet span, and supposing the beams 10 inches deep, as on the floor, they would bear a uniform load of 33 feet depth of sand. As

they may very likely have been spaced about two of space to one of beam, they would carry 11 feet of sand. Now there is a dwarf wall of mud-brick around the tomb; smooth plastered on the outside, but left quite irregular inside; this was evidently a retaining wall for a cap of sand over the roof. As it is $3\frac{1}{2}$ feet deep, it shows that the beams, spaced as I have suggested, would be carrying one-third of their breaking load. This roofing, therefore, is quite practical. The mode of keeping the sand out was by spreading mats of plaited palm leaf, of which the

cast remains in the mud-mortar on the tops of the walls; as also the cast of straw, which seems to have been laid on. If the beams were spaced, of course a board roof must have been put between them and the mats. This system is the continuation of the roofing of the prehistoric tombs, which were covered in with poles 9 to 12 inches apart, and a thick coat of brushwood and fibre laid over them, to carry a thin coat of sand.

All this may seem distant from architecture; but it is the forerunner of the greatest architecture of the Pyramids. For the wooden chamber we find a stone chamber substituted, and the beams of the roof are of limestone or granite in place of wood. But the continuity of the general form and system is unbroken. The earliest royal tombs are plain pits roofed in, as in the prehistoric time. By 4650 B.C. a wooden lining forms a complete chamber, with brick cells around it, but no entrance. Under Den-Setui, 4600 B.C., an entrance stairway is added on the east side. Under Qa, 4500 B.C., the stairway is turned to the north. And the steps from this to the usual pyramid form of a north entrance passage sloping down to a chamber is merely a change of material, but not of form or position. The external form of the mastaba tomb, from which the pyramid was developed (or rather *on* which the pyramid was superveloped), is exactly that of the rectangular mass of sand above the tomb, held in by the retaining wall of mud-brick, with a large external batter, as over this tomb of King Zet.

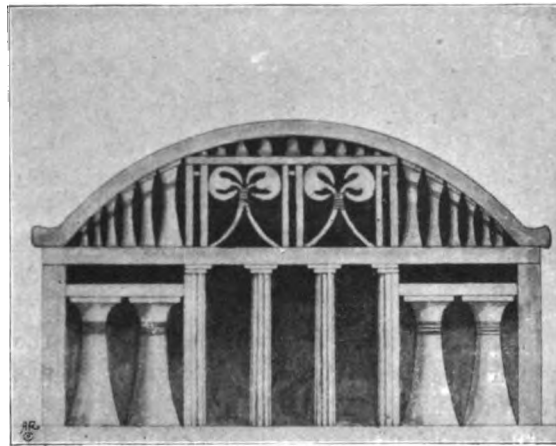


FIG. 9. IVORY MODEL OF HOUSE FRONT.

Before we pass from wood we must notice the favourite lattice-work, which has always perished, but which was copied so frequently in stone that it is very familiar to us. This was doubtless the decoration of the dwellings in the Nile plain, from which were probably also copied the flooring and the roofing which we have just described. This open work was the analogue of the modern mushrabiyyeh work of Cairo; and it was prettily copied in ivory for a toilet casket of which fragments remain at Paris, from which a restoration, such as here shown, is tolerably certain [fig. 9].

Stone-working must now be traced. No instance of building-stone is seen in the royal tombs of the first six kings yet known (4900–4600 B.C.). In the reign of Zer (4700 B.C.), limestone was hewn and carved for the royal tombstone, and roughly hammer-dressed for private tombstones. His successor, Zet, had a beautifully carved tombstone, but yet no trace of building-stone. Then comes one of the surprises of workmanship, in the reign of the magnificent and sumptuous King Den, who floored the whole of his tomb [fig. 10] with slabs of pink and grey granite. Yet, strangely, this was apparently not intended to be seen, as a layer of mud-bricks was placed over it. After this splendid freak, not a trace of building-stone is found, and the general quality of work decayed in this First Dynasty.

The general appearance of this, one of the greatest royal tombs, is very naïvely shown on an ivory tablet, which records "the great chiefs come to the tomb, he gives satisfaction." The figure of the tomb shows at the left the tomb-chamber heaped over with sand; before it a tall upright object, perhaps the two great tombstones which stood at the chapel of each tomb; then a slope representing the stairway down into the tomb; and then an enclosure with rows of little objects, which is the square of graves of domestics round the king's tomb, each with a tombstone standing over it.

The first actual building of stone is the pit-chamber of King Khasekhemui, in the middle of the Second Dynasty, about 4350 B.C. [fig. 11]. The limestone courses are tolerably regular, varying one or two inches either way. The faces of the blocks follow natural cleavages as far as possible; but most of the faces are hammer-dressed, and then adzed over to level them. The adze used had a short handle, and was probably a flint tool, by the nature of the breaks on its edge [fig. 12]. The stone was quite freshly quarried when used, as the adze has dragged the face in dressing it. The joints have plaster in them, and also spread over the open joints on the face. The whole chamber is 10 by 6 cubits, or rather over 17 by 10 feet, and nearly 6 feet deep. The courses average nearly a foot each. Such is the oldest piece of stone building that can be dated.

The same king also worked in grey granite, as two large building-blocks with inscriptions of his have been found at Hierakonpolis and at El Kab. But we may reasonably suppose that building in limestone was still rare, when we see none in the preceding royal tomb of Perabsen, and only the sepulchral chamber built of stone in this tomb, all the dozens of chambers for offerings around it being entirely of brick. And we have the record in Manetho that the second king

of the next dynasty, about a hundred and fifty years later, built a house of hewn stone.

It is probably, therefore, to the latter half of the Second Dynasty, about 4350-4200 B.C., that a series of rough stone pyramids must be assigned which stand at El Amrah, Nubt, and El Qula. These are all built of unhewn blocks found loose on the desert and cliffs. Each has successive faces of external finish, which have been coated over with added masonry. At Nubt the faces are still undressed,

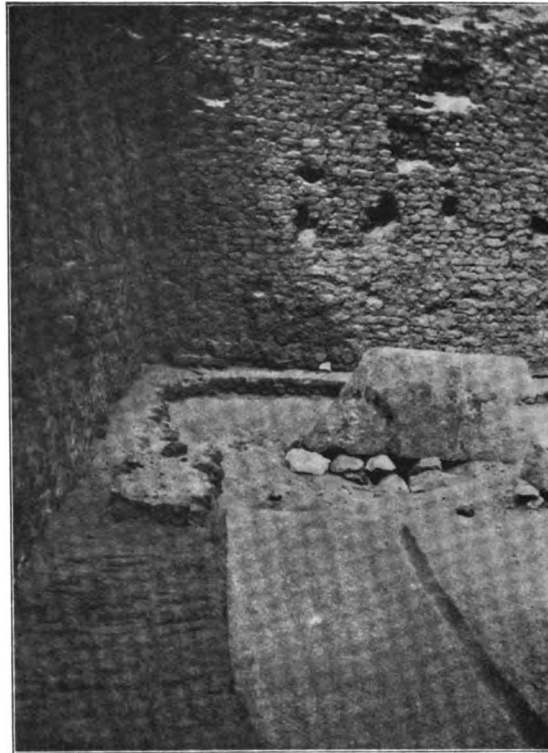


FIG. 10. EARLIEST GRANITE PAVING. FIRST DYNASTY.]

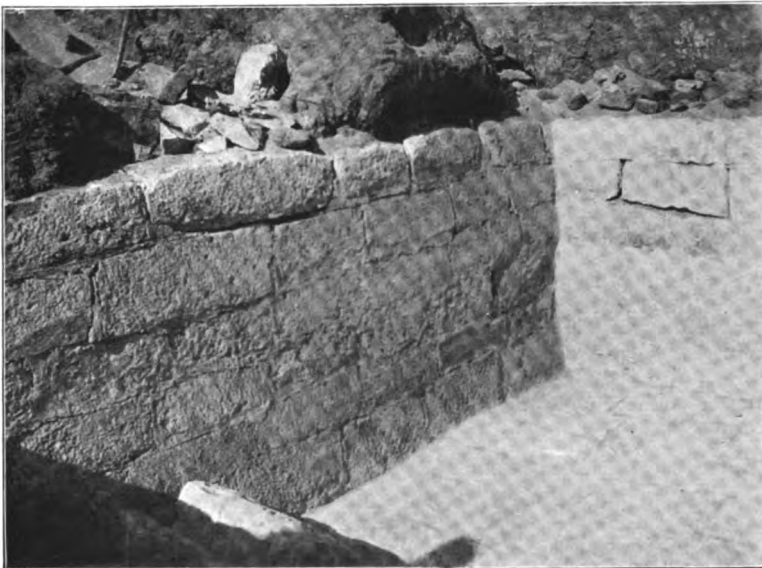


FIG. 11. EARLIEST STONE BUILDING. SECOND DYNASTY.

merely being selected for their flat fractures. At El Amrah the faces are moderately dressed. All of these are, however, built at the mastaba angle of four rise on one of base, and have never had their successive coats covered with one uniform casing, like a pyramid. The chamber at Nubt was a mere hole in the soft sand.

Apparently later than these is the fine tomb of King Neter-khet, who was probably the second king of the Third Dynasty, about 4200 B.C. The external body of the tomb is a mass of brickwork 80 feet high; in this has recently been discovered a long passage with four stone portcullises, descending 80 feet to a series of eighteen chambers, some of which are built

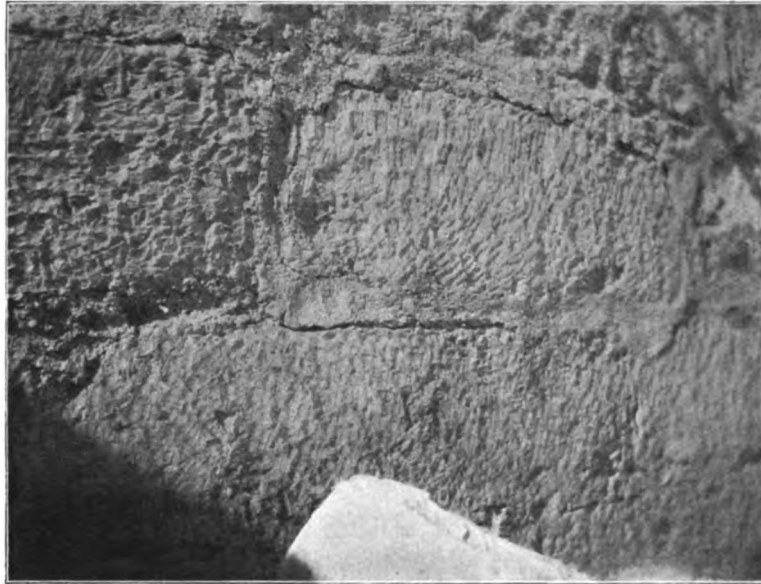


FIG. 12. EARLIEST STONE DRESSING. SECOND DYNASTY.

of stone, well wrought. This is probably the tomb of the same king who is recorded to have built a house of hewn stone; and it would well accord with the level of work when stone began to be used in place of the slighter constructions, at a long distance from the quarries.

Of probably the same date is the great stone pyramid of Saqqara, which was built as a mastaba tomb of stone, like the above brick tomb, and then successively enlarged by repeated coats of masonry, until it had six steps externally. Each coat was faced with finely-

hewn stone closely jointed, which can still be seen in the mass of it. Such a structure, however it may approximate to a pyramidal outline, is not a true pyramid but an aggrandised mastaba tomb, derived originally from the battered retaining wall of mud-brick placed around the sand bed which covered the roof of the royal tombs.

The same is true of the last of such tombs, that of King Seneferu at Medum (4000 B.C.), where the eight steps of the original mass were finally coated over with one smooth casing from base to top, thus creating for the first time a pyramid, a form which was copied during some seven centuries, and had much influence on forms in later ages. The first true pyramid, that of Khufu, being the fully perfected type, we only glance at now as a reminder.

It is important to see clearly how the pyramid structure is derived from the wooden tombs in unbroken succession, as it has by some been derived from the dolmen and chambered barrow. These structures are quite unknown in Egypt; whereas we have traced the continuous stages between the prehistoric pit-grave and the greatest and most accurate structure ever built. Even the preparation for a pyramid remained just the same as for the wooden tombs of the First Dynasty. First we see the pit of the tomb of Den made for a wooden chamber, with its long sloping entrance; next we see the similar pit with sloping entrance cut in the rock at Abu Roash, for a stone pyramid of the Fourth Dynasty, now destroyed.

Lastly, we may notice the subject of pillars; but, as I have elsewhere stated the facts

known, they are just summarised here. Columns of maize stalks bound together are commonly used in huts at present; and stalks bound and plastered with mud are the usual supports of the heavy swinging shadufs used for raising water. Hence we can understand one early form of column which shows the splaying base needful to prevent crushing, and the spread top, bound round for some way down.

The wooden column appears as an octagon in the models found in the First Dynasty, and in the actual pieces which I have found in the Twelfth Dynasty, and the copies of such in stone at Beni Hasan.

The fluted wooden column is found copied in ivory in the First Dynasty tombs, and is well figured as a hieroglyph in the Fourth Dynasty.

The most peculiar form of column is that derived from the tent-pole, as figured in the hieroglyphs. This was the origin of the strange form known as the inverted bell capital in the Eighteenth Dynasty at Karnak.

The lotus column has been well discussed by M. Foucart, whose work I had the pleasure of bringing to your notice recently.* The earliest example known is of the Fifth Dynasty (about 3600 B.C.), and shows the stems of papyrus bound together, and then decorated with lotus flowers and buds. The later examples of the Twelfth Dynasty, of the Eighteenth Dynasty, and of the Nineteenth and Twentieth Dynasties, show only a series of lamentable decadence. Each age in Egypt had its special excellence. In the Eighteenth Dynasty a delicate and freely flowing ornamental treatment; in the Fifth Dynasty the finest figure sculpture; in the Fourth Dynasty the grandest constructions; and in the First Dynasty the most lavish use of hard stones for hand objects and table furniture. Diorite, porphyry, and such materials were cut in thin and beautiful forms with a familiarity which was never known in later times. But every branch of art, when once it had fully grown, decayed rapidly, and the later work in every respect cannot bear comparison with the older triumphs.

I have now briefly shown how the elements of Egyptian construction arose, and how we can at last understand the history of a style which lasted even down to the age of Constantine in the White Monastery at Sohag, a duration of five thousand years.

DISCUSSION OF PROFESSOR FLINDERS PETRIE'S PAPER.

The President, Mr. WILLIAM EMERSON, in the Chair.

PROFESSOR AITCHISON, R.A., *Past President*: I should like to propose a cordial vote of thanks to Professor Flinders Petrie for his most interesting Paper. For many years I have followed Professor Petrie's discoveries at a respectful distance, and when he first showed us some of the treasures he had found, I introduced myself to him, and he showed me some of the principal ones—a portion of the "Iliad" in Greek, beautifully written, and some most interesting children's toys; and on another occasion some beautiful bas-reliefs. I am unfortunately not an Egyptologist, for when I began to study my profession I thought it was too remote, but now we see that that acme of perfection, the Doric of the Greeks, was Egyptian too, and that a true wagon-headed vault was Egyp-

tian; and though Professor Petrie has not told us its date, it makes it possible that the original Cloaca Maxima at Rome may have been vaulted, although I have always believed it was originally roofed with slabs of stone, for hitherto we have believed the arch to have been invented in the days of Alexander the Great, some 300 years after Tarquinius Priscus. The Egyptians had shown the way of making ornament out of every common thing, even out of so ghastly a subject as decapitated men. Professor Petrie's charming description of the wattle and dab of the Egyptians was most fascinating, and the growth of an imposing stone architecture from it showed an invention that was truly marvellous. I am sure you will show your appreciation of the interest of his

* JOURNAL R.I.B.A., Vol. IV., 3rd series, p. 361.

lecture by your acclamation when the last speaker has concluded.

SIR LAWRENCE ALMA-TADEMA, R.A. [*Hon. Fellow*], in seconding the vote of thanks, said that people were apt to believe that Egyptian architecture, like Egyptian civilisation, had come full-grown into the world. For a long period the question of the development of Egyptian civilisation had remained unsolved, and we were now indebted to Professor Petrie for the history of that civilisation to which the world owed so much, since we had inherited the outcome of it through Judaism, Greek architecture, and numerous other sources. Through the labours of Professor Petrie we were at last able to comprehend how that art and that civilisation developed. Another important point was the question of chronology. We look back upon 6,000 years as carrying us almost beyond the reach of humanity. But did we ever think that 6,000 years, after all, was only one hundred generations of sixty? If that fact were borne in mind, we should feel with Professor Petrie that the Egyptians of those far-away days were very much akin to present-day peoples. That civilisation, which was so essentially human in its development, had passed, like all expressions of human thought, through those phases of decay which fructify the germs of future developments. We had to thank Professor Petrie for so many things already; and that evening we had to thank him for having lifted up a corner of the mystery that enshrouded that great race, that great civilisation, that great power of human development, which was, although a thing past and gone, still living amongst us.

SIR W. MARTIN CONWAY said he could only re-echo previous speakers in praise of the Paper just read to them and the immense amount of suggestiveness it contained. As he watched the slides and listened to the Paper, it occurred to him how very strong an illustration the subject was of a fact which might be observed throughout the whole history of Architecture—viz. how frequently new architectural styles had risen from the translation into one material of forms devised for another. It was one of the axioms of Ruskin that nobody should ever imitate in one material decorations which were proper to another. But in the history of architecture new architectural styles seemed always to have been developed by doing that exact thing. All the decorative forms in the earliest stone architecture were found to be derived by direct imitation from the older structural forms which were developed when buildings were not made of stone. The same thing occurred in Greece, where stone architecture arose by the imitation of the forms devised for wooden architecture. Exactly the same thing is taking place to-day, now that metal construction is coming in and is about to become the predominant constructive feature in the world's architecture. The architec-

tural forms of the great metal-framed buildings of the present day are all imitations of those forms which were devised as decoration, or even as structural features, of buildings in stone or brick. He could only say in conclusion how fortunate we are to have in Egypt a representative of this country capable not merely of making such admirable investigations, and bringing to bear on the newly-opened soil such a bright and intelligent and quickly apprehensive eye, but also a man of science and of art, who was able not merely to see and collect and gather together materials, but almost immediately to reveal their significance to his countrymen at home. Professor Petrie did not, as so many investigators do, keep his treasures in his pocket for years and years, and slowly dribble them out in monographs that nobody saw; but he came home, and, within a few months, placed the world in possession of at all events the first gleanings of the discoveries which, not fortune alone, but his ability had enabled him to make.

Dr. ALEX. S. MURRAY [*H.A.*] said it was perhaps hardly fair to Professor Petrie, after he had given them so much of his best in his most admirable Paper, to ask him a question about those columns shown them on the screen, which always narrowed towards the top. It would be remembered that the oldest Greek columns, as on the Lion Gate at Mycenae, and on the frescoes found by Mr. Evans in Crete, were wider towards the top, and he would like to have heard from Professor Petrie whether he had formed an opinion on the subject. Again, Professor Petrie's reference to those primitive buildings of maize bound together, as if the people built their homes just where they happened to find something that would shelter them, reminded him of a passage in the "Odyssey," where Ulysses describes how he built the bridal chamber for Penelope. He said there was an olive tree growing in the courtyard of the house, and he built a stone wall round it and roofed it in. The commentators, as usual, were rather obscure on the point. He did not know whether Professor Petrie had thought of this matter of the "Odyssey," but if a living tree growing in a court was adopted by Ulysses as the supporting element for the chamber he built, it would be something analogous to the practice referred to by Professor Petrie of using natural objects like maize and so on to build a house.

Mr. R. PHENÉ SPIERS, F.S.A. [*F.*] said there were two or three points he should like to refer to in connection with the subject. As regards those masses of brickwork in curved form,—was there any truth in the theory that this curved form was to prevent their being shaken down by earthquake? With all the masses leaning towards one another in the centre, the shaking of the ground would have less effect than on a vertical wall. If that was the case, the building of blocks

of bricks at intervals with these curved lines would give very strong points of support, and the intermediate walls would tie them together to make the wall enclosing the fortress. Another point he wished to refer to was the covering over of that chamber where the room was 20 feet span. Twenty feet was a very long dimension; and the Professor had said afterwards that no timber longer than 17 feet had been found. At the same time there was no doubt that it was the custom to cover over the tombs with timber, because there were a number of tombs round about the Pyramids in which these roofs were carved in stone in imitation of earlier structures. So that the covering over of houses or tombs in earlier periods with timber must certainly have been a well-known and recognised custom. Could Professor Petrie tell them what kind of wood was used? With the exception of the palm tree, which was not a very strong wood when laid horizontally, it was difficult to understand how such a great dimension as 20 feet was spanned over by timber, especially if it had to carry such a weight as that stated in the Paper. As regards another point—viz. the true formation of the openings of the doorways—in almost every guide-book of the country it was stated that the doorways in Egypt were always wider at the bottom than at the top. If built with timber or stone the sides could be inclined somewhat more forward, as was the case with Greek work; but, building with crude brick, it would be impossible; the wall would fall over. It never seemed to be recognised that, as a matter of fact, the sides of the doors of Egyptian buildings were always vertical. If Professor Petrie could insist upon the fact that they were always vertical he would remove an error that was repeatedly made in their guide-books. Might he ask whether the fluting of the column shown in ivory was hollow?

PROFESSOR PETRIE: Yes, hollow, both in the hieroglyph and in the ivory.

MR. PHENE SPIERS: Because all the columns at Beni-Hasan are flat-sided, are they not?

PROFESSOR PETRIE: They are both flat-sided and curved.

MR. HUGH STANNUS [F.] said he would like to add his thanks to Professor Petrie for the delightful Paper he had read, so full of knowledge, and so new in its knowledge to all of them. Looking back on the authors who had written on Egyptian subjects, one could see a certain analogy between the Egyptian remains and the various crusts of the earth. When man in his savage state began to make use of the crust of the earth, he could only deal with the tertiary parts—the clay and the sand. Later, as he advanced in civilisation, he was able to deal with the stone and the coal—in the secondary strata. Later

still, when he was further advanced, he was able to deal with the metals in the primary strata. So with the strata of the Egyptian discoveries. Reading the old books of the time of Denon and Belzoni, it would be seen that their chief idea of Egyptian art was that of the Eighteenth and Nineteenth Dynasties, which were in a state of effete degradation and debasement; and that was thought to be Egyptian art. Then there came a time when men were able to go further back than that, and get to the art of the great Amen-em-hat, of the Twelfth Dynasty. Since then men had been able to get to the art of the pyramid builders. Going further back, down to the primary stratum, Professor Petrie had taken them to the art of the First Dynasty, and to the art of dynasties even before the "first" one. While they of the present day might congratulate themselves that they lived in such a time, to have had all this laid bare so clearly to demonstration as had been done that evening, and while they could congratulate Professor Petrie on having in the fulness of time come to do that, he thought there might be occasion for some condolence with him that there would be no more worlds left for him to conquer. Professor Petrie had struck the bed-rock in Egyptian matters, and in the next two or three years, all being well, one might hope to see it so clearly laid bare that unless another vein was found his occupation would be gone—so far as Egyptian excavation was concerned. But in view of the delightfully clear and lucid manner in which he had shown these things, there was a great future in explaining them, and they might congratulate themselves that they were born in this time to take advantage of it. A previous speaker had spoken about Professor Petrie finding things in virgin soil. He had heard Professor Petrie say that it was by no means virgin soil; that all this ground had been well picked and hacked about before he had a chance of going over it; and the marvellous things he had discovered must show the difference between a man excavating ground for the purpose of finding curiosities which could be carted away to a museum, and the man examining the site with eyes and knowledge to look for the evidences of the past civilisations. It was another instance of the application of the old story of "Eyes and No Eyes, or the Power of Seeing" that one read as a child.

THE PRESIDENT, in putting the vote of thanks, said he was sure they all felt, as he did, the very greatest gratitude to Professor Petrie for giving them such a splendid testimony of his research and careful discrimination in working out the origin of Egyptian architecture. To those who had not followed the later phases of the discoveries in Egypt, the Paper read that evening was a revelation. He had often, when looking at the Egyptian column, wondered where and how its form originated. But the Paper made it clear

that the art of Egypt was indigenous there, and grew up in the country. That upset the notion of earlier years, that the art of Egypt suddenly appeared there full blown, which to his mind was always an added charm to the mystery that attached to Egypt. Only as recently as ten years ago people were talking of travelling in Arabia and other parts to find out, if they could, where Egyptian architecture took its origin. But all the dreams of one's childhood and all the mysteries vanished before such discoveries as those made by Professor Petrie. One point was particularly astonishing—viz. the enormous distance of time which they were carried back. They were led to believe years ago that the Great Pyramid was built some two thousand years or so before Christ. Now they learned that it must have been built nearly two thousand years earlier than that. Again, other discoveries were spoken of as dating back to 6000 B.C.—longer than the world had existed, according to the old chronology. The whole subject was of entrancing interest, and they had all been charmed with Professor Petrie's Paper.

PROFESSOR FLINDERS PETRIE, in response, said that with regard to the question of art being indigenous, that was a very difficult matter, which he had not ventured to touch upon at present. The construction was distinctly indigenous—that is to say, each architectural element was borrowed from a material that belonged to Egypt. With regard to the art, that was another question, and he hoped he should have opportunity of showing that there were two different arts, from different sources. Then with regard to the question of those strange columns widening out towards the top, which Dr. Murray mentioned, he much regretted that no one had brought forward any illustrations from the natural materials used in Greece to explain them. He had no doubt that the origin of them might be seen in the materials used at the present day, if they are sufficiently searched for; but as no one had as yet brought forward an explanation, it would be useless for him to attempt from the side of Egyptian materials to suggest any parallel for a form so distinctly belonging to another country. The question of the natural use of growing trees in construction was particularly applicable in a wooded country such as Greece. Unfortunately, in Egypt wood was comparatively scarce. With regard to the

question raised as to the nature of the wood, though it had not been examined, he could safely say that it was most likely not from Egypt at all. The wood was distinctly coniferous wood—probably cedar. In the large beams the grain was almost straight in most cases. The floor beams, judging by the irregularity of the grain, were most likely the native *sont* or acacia, which was common in the country. The large beams were particularly straight-grained, fine wood, from large trunks, out of which they could cut beams ten or twelve inches square: he imagined most likely they came from Syria. At that time there was considerable shipping intercourse, as far as Greece probably: Greek pottery had been found in the First Dynasty, and the gold found there was distinctly from Asia Minor, because it was of electrum alloy, which was not known in Africa. Therefore there was no difficulty (especially in view of the large ships, employed long before that time, figured on the tomb paintings and vases) in supposing that the timber was brought down from the wooded parts of Syria. With regard to the size of the beams, he might say that there were beams more than 17½ feet in length still remaining; and some beams of the full 20 feet required for the span of the largest chamber, which was certainly spanned in one length. He did not think they need be afraid of the load of 3½ feet of sand. It seemed rather large at first sight; but he had already mentioned that if those beams were placed side by side they would carry 80 feet of sand at breaking strain. Therefore, with some spacing of the beams, still there would be sufficient strength, as they would carry only one-third or one-fourth of the breaking load, which he thought was quite practicable. With regard to the question of the batter of the walls and the strange alternation in long walls of alternate curved courses and horizontal ones, he knew there was a suggestion of its being stronger in view of earthquakes. But he could not see that the introduction of cross joints in the wall, even if the one were battered and the other overhanging, would strengthen the wall. He did not think that suggestion would solve the question of why they made so many cross joints running right through the wall, which must have been sources of weakness. They must still look for some other reason for that strange construction of the walls in sections.



9, CONDUIT STREET, LONDON, W., 25th May 1901.

CHRONICLE.

The late Arthur Cates, Past Vice-President.

The death of Mr. Arthur Cates occurred at his residence, 12, York Terrace, Regent's Park, on Wednesday, the 15th inst., in his seventy-third year. Mr. Cates had been in feeble health for the past five or six years. It was owing to failing strength that in 1896 he resigned his seat on the Council and on the Board of Examiners, over which latter body he presided uninterruptedly for fifteen years. There was, however, little visible sign of ill-health. He was constantly at the Institute, exhibiting as keen an interest as ever in its concerns; and that his capacity for hard work and mental effort had not declined with advancing years striking proof is afforded in the series of articles he contributed to the current volume of this JOURNAL on "The Higher Education of Architects," the seventh of which appeared in the last issue. He had in preparation a further article for the series, dealing with architectural education in Germany. He was at the Institute two days before his death, apparently in fair health, and in the best of spirits.

The funeral took place at Woking on Saturday, the 18th, the remains being followed to the Crematorium by a large number of mourners, including, besides those of the family, numerous members of the Institute and executive, the Council being represented by Mr. John Slater, *Vice-President*, Mr. Alex. Graham, *Hon. Secretary*, and Mr. Thomas Blashill.

A special memoir will appear in a future issue.

Mr. JOHN SLATER, *Vice-President*, addressing the Meeting last Monday at the invitation of the President, said:—I have had, during the last ten or twelve years, more opportunities perhaps than any other member of seeing a side to Mr. Cates's character that was rarely apparent to his colleagues or to those who only met him in an official capacity. Mr. Cates was essentially a strong man all round, and one sometimes felt that he was a little too prone to show and use his strength. But under a somewhat forbidding

external manner at first sight, there lay hidden one of the kindest hearts that ever beat in human breast. I have sometimes thought that Shakespeare's words in describing the haughty and overbearing Chancellor of Henry VIII. are applicable to Mr. Cates: "Lofty, and sour, to them that loved him not; but to those men that sought him, sweet as summer." I know personally that not a few young architects have had occasion to be grateful all their lives for the kindly advice and assistance given by Mr. Cates as ungrudgingly as unostentatiously. To see Arthur Cates in his Sunday morning's walk round the Zoological Gardens discoursing on the peculiarities of some of his pet animals to a group of keenly interested and laughing children was an absolute revelation to those who only knew him in his official capacity. I am quite sure that his death will leave a void in the lives of those who were intimate with him which will be very hard to fill. Mr. Cates was not only an able man, but he was also a very learned man. I have frequently been much struck at the evidence shown of the wide range of his reading and learning. Of his interest in and services to the Institute it is too early to speak: and it is too soon for us to attempt to appreciate his loss. The work that he did in instituting the Examinations, whatever may be the opinion of the general public as to their value, was one that we cannot possibly over-estimate. If it had not been for him I am quite sure the Examinations would never have been started, and the energy with which he pressed forward his views and carried them was a striking index to his character. He was a perfectly ideal Chairman of Committees. The brusquerie and fidgetiness which characterised his manner when he was merely sitting on a Board disappeared altogether when he was in the chair. There he was urbanity itself, and the way in which he afforded every member of the Board or Committee the opportunity of expressing his opinion, and the celerity with which he got through the business, was remarkable. I hope that we shall have in our JOURNAL, from the pen of someone who has known him longer than I have, some record of his life and work. To-night we can only regret his loss; and I am quite sure I am only expressing the feelings of those who knew him when I say that "He was a man, take him for all in all, we ne'er shall look upon his like again." In conclusion I should like to be permitted to propose that a most sincere vote of condolence be sent to Mrs. Cates from this Institute for the loss which she and we have sustained in her husband's death.

Mr. W. WOODWARD [A.]: May I, as Mr. Cates's oldest assistant, add a few words to those which have been so eloquently placed before us by Mr. John Slater? Mr. Cates was a man of considerable literary attainments; he

was a great bibliophile and a voracious reader. His passion for work was well known to the Institute; and that passion for work pervaded his office, and did not leave him, unfortunately, when he went home. He was a very great and keen architectural critic. His memory was wonderful, and he had travelled extensively. Another feature was his marvellous faculty, in going through his morning correspondence, for grasping the contents and meaning of a letter in an incredibly brief space of time, and immediately dictating the answers. Speaking for myself and for others of his assistants and pupils, we very deeply regret his death. Arthur Cates well merited the line, if ever any man did, "Sans peur et sans reproche."

Mr. T. M. RICKMAN, F.S.A. [A.].—Mr. President, will you allow me to say one or two words to express my very strong personal feeling at the loss of our esteemed friend, Mr. Arthur Cates? He and I had worked together and fought together since 1852. He had been my nearest and most intimate professional and personal friend for all those years, and I would only mention that the last time I met him was on Saturday week, when we were both attending Professor Flinders Petrie's first lecture at the Royal Institution. I was shocked then at his appearance and his careworn look; but after ten minutes' chat I left him looking as well as ever. His last Paper in the Institute JOURNAL contained as its most fitting postscript the application which the Architectural Association made many years ago to the Institute to establish professional examinations. I believe it was in the little committee-room at Lyon's Inn Hall that the document was drawn up, and I remember how each of its phrases came either from Arthur Cates, Alfred Bailey, or from myself. Since then we have continued to work together, not always on the same side, but I am quite satisfied that, though he was of a pugnacious disposition, there was no one so upright in the profession and no one who had the interests of the profession in its widest sense so thoroughly at heart. While he spoke of himself sometimes as a drill sergeant, there were very few of us went through an interview with him without feeling that we had learnt something at his hands; and it must have been the feeling of all those who have been educated and who came under his tuition or examination in any way, that they left him with a greater hope of future progress. I would cordially support the proposed vote of condolence with his widow, to whom I feel we are indebted for many of the last years of our friend's life.

The PRESIDENT.—I can heartily endorse every word that previous speakers have said. It was only of late years that I knew Mr. Cates well, and I have been astonished at his wide learning, his comprehensive grasp of all subjects in connection with the architectural profession,

and the deep interest he took in its concerns. His loss is a very great one to the Institute. His work in connection with it has been useful in the highest degree. I am quite sure you will pass with one accord the resolution that a vote of condolence be sent to his widow.

M. CHARLES LUCAS [*Hon. Corr. M.*], in a letter addressed to the Secretary R.I.B.A., writes:

"J'apprends avec une réelle émotion la mort de notre honoré et digne confrère Monsieur Arthur Cates. C'est non seulement la profession d'architecte en Angleterre qui ressent une grande perte, mais c'est l'architecture dans nombre d'autres contrées.

"Par les soins que M. Arthur Cates avait donnés à l'achèvement du *Dictionary of Architecture*, par ses études sur l'enseignement de l'architecture dans les divers pays et l'heureuse application qu'il s'efforçait d'en réaliser en Angleterre dans les examens de l'Institut Royal, plus encore peut-être par la haute situation qu'il avait montrée pouvoir être confiée à un architecte, celle de Président d'un Tribunal d'Appel de contraventions relatives à l'architecture urbaine, M. Cates, votre ancien Vice-Président, mérite qu'aucun des membres de l'Institut Royal ne laisse passer sa mort sans exprimer une parole de regret.

"Pour moi, qui avais eu l'honneur de le présenter en 1899, comme correspondant de la Société Centrale des Architectes Français, à la suite de l'envoi du *Dictionary of Architecture*, j'avais l'honneur et le plaisir de voir, depuis quelque temps, notre échange de correspondance devenir plus fréquent au sujet de l'enseignement de l'architecture en France, enseignement sur lequel il voulait être renseigné jusque dans ses moindres détails, ainsi qu'en témoigne la série d'articles qu'il a publiés dans le Journal de l'Institut."

Monsieur J. M. POUPINEL, Secretary of the Société Centrale des Architectes Français, writes:

"Nous avons appris avec le plus vif regret le décès de M. Arthur Cates, ancien Vice-Président de l'Institut Royal des Architectes Britanniques et Membre Correspondant de la Société Centrale des Architectes Français. Nous en sommes très attristés et estimons que notre Société, comme la vôtre, vient de faire une grande perte; ne doutez donc point, je vous prie, de la sincérité de nos condoléances."

The Tribunal of Appeal.

The Council have appointed Mr. Edw. A. Gruning, *Vice-President*, to fill the seat on the Tribunal of Appeal left vacant by the death of Mr. Arthur Cates.

The late Ebenezer Gregg [F.].

Mr. Ebenezer Gregg, who had been a Fellow of the Institute for over thirty years, and for many years served on the Board of Examiners (Architecture), died on the 14th inst. The Hon. Secretary, in announcing his death at the Meeting last Monday, said that his genial presence was always welcomed in that room. He was a very active member of the Institute, and took a great interest in its affairs. His services for a number of years as a member of the Board of Examiners reflected great credit on him, not only for his ability, but for his assiduity and his loyalty to the Institute. The Board of Examiners would miss the kindly face of their colleague very much. He was always anxious to fulfil the duties entrusted to him in his section of the work, and he performed them thoroughly and conscientiously. The Council, on behalf of the Institute, had sent a message of sympathy to his widow and family, and had forwarded a wreath on the occasion of his funeral as a mark of respect to his memory.

The A. A. Day Courses of Instruction.

The Architectural Association announce that arrangements have been made to open in October next a complete day course for students contemplating entering the profession of architecture, in addition to the present evening course, which will be continued as heretofore.

The following is quoted from the circular issued by the Association giving particulars of these classes:—

Architects feel that pupilage should be preceded by some elementary training preparatory to an office career. Pupils are frequently unable to take advantage of the opportunities offered in an architect's office because they have not previously studied the elements of their work; consequently they are only beginning to learn something about architecture when their articles terminate.

A year or two spent in such a school as is now established will enable a student to acquire, at moderate cost, the rudiments of his work, before learning in an architect's office the practical details of his profession.

The School will have the further advantage of testing the student's aptitude for the profession. If he should find the work uncongenial he can abandon the pursuit of architecture.

Many architects do not care to receive pupils who are beginners, but they would probably take young men if well grounded. In many cases the period of pupilage might be shortened.

Students already articulated and unable to attend the studio regularly can make special arrangements for partial attendance if desired. In this case they are also advised to attend the evening lectures.

The students will be under the direct control of

a thoroughly qualified architect as master, assisted by such staff as may be necessary.

The school year will be divided into three terms, Autumn, Spring, and Summer, consisting of about fourteen weeks each.

Students wishing to join the school must submit a satisfactory letter of recommendation.

The fee for the full course is twelve guineas per term, or thirty-five guineas per annum; or, for the lectures only, two guineas per term, or five guineas per annum for either the History or Construction course. All fees are due in advance, and cheques should be made payable to "The Architectural Association."

After payment of the fees for the first year's course, students will be eligible for election as ordinary members of the Architectural Association without payment of the usual entrance fee of two guineas.

The following subjects are included in the Curriculum:—

FIRST YEAR'S COURSE.

The Studio.—The use of instruments and scales.—Freehand drawing.—Elementary perspective.—Orders of Classic Architecture.—Elements of the various styles of Architecture.—Principles of Mechanics.—Elementary Construction.—Sketching and measuring details and portions of existing buildings.

Lectures.—History of Architecture, thirty-six lectures (*illustrated by visits to Buildings and Museums*). Elementary Construction and Materials, thirty-six lectures (*illustrated by visits to Workshops and Buildings in progress*).

SECOND YEAR'S COURSE.

Continuation of the subjects forming the first year's course.—Advanced Perspective and Sciography.—Descriptive and Applied Geometry and Graphic Statics. Principles of Architectural Design.

Students taking a second year in the studio should attend such day or evening lectures as the Master may advise, certain evening lectures being open to second year students without further payment.

Each student will be expected to take up a course of reading under the direction of the Master, and for this purpose the Studio Library will be available.

The Master will direct students as to their vacation studies.

The Advisory Council of the School consists of the following members:—Professor G. Aitchison, R.A. [F.], Dr. R. Rowland Anderson, H.R.S.A., F. T. Baggallay [F.], John Belcher, A.R.A. [F.], Hippolyte J. Blanc, R.S.A. [F.], J. M. Brydon [F.], J. J. Burnet, A.R.S.A. [F.], W. D. Caröe, M.A., F.S.A. [F.], T. E. Collcutt [F.], Henry L. Florence [F.], Ernest George [F.], Henry T. Hare [F.], T. G. Jackson, R.A., E. W. Mountford [F.], Leonard Stokes [F.], C. F. A. Voysey, Alfred Waterhouse, R.A. [F.], Aston Webb, A.R.A. [F.]

Further particulars may be obtained upon application to The Secretary of the Architectural Association, 56, Great Marlborough Street, W.

Lightning Research Committee.

The following is the Schedule of Questions drawn up by the Lightning Research Committee for the guidance of observers in sending particulars of damage to buildings caused by lightning stroke :—

1. Name of building struck, and for what purpose used. (A photograph taken after the disaster would be useful.)
2. Date and hour of occurrence ; name of place and county.
3. Description and situation of the building, and height above sea-level. (Give particulars as to its position with regard to other buildings and high trees, and its propinquity to any wells.)
4. Was rain falling when building was struck ? If not, did rain precede or follow the stroke, and at what interval ?
5. Was the building provided with lightning-rods ? If so, state number, position, height above roof, material (both of rod and staples), shape, sectional area, how finished at top and at bottom, condition of ends after flash—i.e. whether melted or blunted. (A sketch plan should be made, which should aim at being a sort of Röntgen-ray representation, the metal-work being shown a different shade from the brick and stone work.)
6. Was the conductor continuous ? Describe the earth-connection. When was the conductor last examined and tested ?
7. Nature of soil.
8. State fully the effect on the building ; if any portion was set on fire ; also if any damage occurred to metal-work, such as bells, rain-water and other pipes, electric bells or telephones, &c.
9. State distance (vertical and horizontal) of any portion of the building affected by the lightning from the nearest point of the conductor. (If stones, &c. were displaced, state to what distance.)
10. State materials of roof coverings, and position of gutters and down-pipes. Was the conductor in contact with any other metal ?
11. Were there any metal cresting, weather-cocks, finials, or flagstaffs ? If so, state distance from and height above conductor.
12. If the conductor was struck, state whether the damaged portions can be obtained for examination.

Members willing to act as observers are requested to communicate with "The Secretary, Lightning Research Committee," at the offices of the Institute.

The Church Crafts League.

The subject discussed at the half-yearly general meeting of the Church Crafts League was "The Importance of Reality in Art and Religion," the Bishop of Rochester presiding. Canon Scott Holland said that it was important to remember that individuality in art was not a mere eccentric detachment from the spirit of the time, but was the embodiment of the feeling of the great corporate body. In the matter of church music, much had been said by expert musicians as to the folly of having a precentor to direct the music in churches where the organist was a competent artist. But it was not as if the Art was standing alone. It was called in to assist the worshippers, and therefore the precentor was, for the time being, the expert. The same principle applied to all other branches of Art, and it was just this that distinguished religious Art from secular.—Mr. Henry Holiday dealt at length with the conditions under which the modern journeyman had to live and work. It was impossible for a man to take any intelligent interest in, or to put his heart into his work now, because the conditions of modern commercial life had converted him into a mere machine.—The Rev. Percy Dearmer, the next speaker, said that when one looked at the homes of the people one saw an utter absence of beauty—everything was shoddy and cheap. When one looked at the churches, one found much the same thing. Most of the fittings were made to look as if they had cost twice their real price. There was an entire absence of that reserve which goes so far towards making a thing beautiful. In music, the Church had formed a tradition, and many of our greatest musicians had been brought up at our cathedrals, where that Art had been carefully nurtured, even in the darkest times. The result of this on the nation was striking. For every ten persons who cared for music, you only found one who had an appreciation for the other forms of Art. Again, if the decorations of a church were so vulgar and bad that one's nerves were affected, that it was impossible to worship, one was considered affected if one said so. But if the music at a church was noisy and vulgar and in bad taste, one was considered to have a very plausible reason for staying away.—Mr. Halsey Ricardo said that Art was a man's message to his fellow-men. Every artist had to learn all that his predecessors had learned, and then go on beyond them. Thus Mozart, in one age, learned all that could then be learned about music, and built up his own work on that. Beethoven, in another age, had gone beyond all his predecessors, and, still later, Wagner had done the same.

The Queen Victoria Indian Memorial.

The Institute has received from the Executive Committee of the above Fund the first part of a

journal which is to be issued at intervals during the period of three or four years in which the proposed Memorial scheme is taking shape and the building is being erected. Copies of the journal are to be sent regularly to the Institute, and will be laid on the Library table.

Among the papers printed in the present issue is a memorandum written by the Viceroy, Lord Curzon, as the result of a conference held between himself and a number of representative European and native gentlemen in Calcutta, immediately after the death of Her late Majesty.

From this it appears that it is in contemplation to erect at Calcutta, as the capital of the Indian Empire, a great marble building, the central feature of which shall be a Hall devoted to the memory of Queen Victoria, and containing such relics as it may be possible to procure of Her late Majesty, particularly in relation to her rule over India, which first passed under the direct administration of the Crown during her reign. The remainder of the building is to consist of galleries and apartments dedicated to collections of statuary, paintings, arms, trophies, and memorials in general of bygone Indian history, and more especially of the period of British connection with the country.

The objects it is desired to collect for the Hall are: (1) Statuary and sculpture; (2) Paintings, miniatures, engravings, and prints; (3) Documents, manuscripts, and letters; (4) Maps, plans, and models; (5) Arms and accoutrements; (6) Coins and medals; (7) Personal relics or mementoes, and historical trophies.

As regards the site and building, Lord Curzon says:—

The best available site is the open space between Esplanade Row on the north, the Ochterlony Monument on the south, Government House Gardens on the west, and Chowringhee on the east. It is at present traversed only by foot tracks, and wandered over by occasional cattle and boys. The proposal is to take this tract of ground, occupying about 900 feet from north to south and 1,100 feet from east to west, and to convert it into a beautiful garden, with flower-beds and shrubs and trees. In the centre of this garden would be placed the Victoria Hall, to contain the collections that have been described—no other building whatsoever being admitted to the enclosure. Security would be taken, by enlisting the names of the best architects that the Empire can produce, that a worthy building were raised, fronted by a noble approach.

LEGAL.

Alleged Negligence.

PAGET V. DOLLAR.

This was a claim to recover damages for negligence, which was denied. The case was heard by Mr. Justice Wright in the King's Bench Division.

Mr. Joseph Walton, K.C., and Mr. Ashton Cross appeared for the plaintiff; and Mr. McCall, K.C., and Mr. A. Hudson for the defendant.

Mr. Walton stated that in March 1897 the plaintiff Major Paget, who is now in South Africa, employed the defendant, an architect, to prepare plans for certain flats at Church Row, Hampstead. The plans were prepared, and a tender was accepted in March 1898 for erecting the flats. The defendant then requested an increase in his fees, which was refused. It was then agreed that the defendant should hand over the plans for the sum of £504, then paid to him, and withdraw from the work. It was assumed and understood by the plaintiff that the necessary consent of the County Council had been obtained. It transpired that this was not so. The building line was found to be in advance of the general building line of the street, and, to a large extent, new plans had to be prepared before the consent of the Council could be obtained. This caused additional expense and a delay of several months. The defendant should first have obtained the consent of the Council, and not merely the district architect's approval.

For the defence a large number of eminent architects were called. They stated that the defendant had followed the usual custom, and had done all that prudence would suggest; it was not always wise to anticipate the Council's objections.

Mr. Justice Wright, on the 12th May, gave judgment for the defendant with costs.—*Times*.

MINUTES. XIII.

At the Thirteenth General Meeting of the Session 1900-1901, held Monday, 20th May 1901, at 8 p.m., the President, Mr. William Emerson, in the Chair, with 36 Fellows (including 13 members of the Council), 38 Associates (including 2 members of the Council), 1 Hon. Fellow, 2 Hon. Associates, and numerous visitors, the Minutes of the Meeting held 6th May [p. 334] were taken as read and signed as correct.

The President announced the decease of Mr. Arthur Cates [F.], *Vice-President* 1888-1892; and Messrs. John Slater, *Vice-President*, Wm. Woodward [A.], and T. M. Rickman [A.], having paid their personal tribute of affection and regard for the deceased, and referred to his long and unwearying labours in the cause of architectural education, the Meeting

RESOLVED, that the Institute do record its sorrow at the loss it has sustained by the death of its esteemed Fellow, Arthur Cates, and that a message expressing the Institute's sympathy and condolence be conveyed to his widow.

A similar vote of condolence was passed to the widow and family of Mr. Ebenezer Gregg, *Fellow*, Member of the Board of Examiners, whose death was announced by the Hon. Secretary.

Sir Lawrence Alma-Tadema, R.A., attending for the first time since his election as *Hon. Fellow*, was formally admitted.

Mr. William Ernest Emerson, *Associate*, was also admitted, and signed the Register.

The Secretary announced that Mr. Charles James Sculthorpe Hall, Professor of Architectural Composition in the Puebla State University, had been nominated by the Council to candidature for the class of Fellows.

Professor Flinders Petrie, D.C.L., having read a Paper on *THE SOURCES AND GROWTH OF ARCHITECTURE IN EGYPT*, which was illustrated during the reading by a numerous series of lantern slides, a discussion ensued, and a vote of thanks was passed to the author by acclamation.

The proceedings then closed, and the Meeting separated at 10 p.m.

GLAZE.

"Mors est in olla ista, vir Dei!"

PLUMBISM, or lead-poisoning, is a subject in which an architect may very properly and very profitably be interested. The constant use which an architect makes, on his client's behalf, of materials to which pottery glaze is applied gives him many opportunities of at least investigating the conditions under which these materials are produced, and of giving, where he can legitimately do so, the preference to those products which are manufactured under the more favourable methods. My own claim to say anything upon this subject is simply that of one who, having been entirely ignorant on the matter, or indifferent, feels that possibly other architects may have shared this ignorance and this indifference.

Those who have noticed occasional writings in the daily press and elsewhere on the subject of lead-poisoning have very probably attributed a portion of the reported horrors to the exaggerated zeal of biassed philanthropists, who sometimes approach such topics with an ardour which is rather political than discriminative. Or perhaps it has been concluded that, even if the pottery trade be a dangerous one, the question of its peril to the workers concerns the dull conscience of the manufacturers, the carelessness of the employés, or the negligence of inspectors. Maybe there have been exaggerated statements on the subject—there are on most subjects about which people wax enthusiastic—but we are at least safe from exaggeration in the sufficiently striking evidence of the Bluebooks and official statements. Maybe the manufacturers are doing less than their sense of duty should compel them to; but among them are some notable exceptions, who deserve such encouragement as they can get. Maybe, finally, there is indifference among the very victims; but such indifference, where it exists, is surely an aggravation, not a mitigation, of the evil. Two facts remain incontrovertible—the one that we have, on the testimony of unimpassioned Bluebooks and medical reports, a positive proof of the physical evils of lead-poisoning as brought about in the pottery trade; the other that these evils are largely, if not entirely, avoidable. And to these two facts one should add a third (which is at least as near a fact as a proposition in political economy ever can be), that the responsibility for the existence of avoidable evils in any trade rests proportionately, if not ultimately, upon the consumer.

The state of the case is briefly this. The glaze on pottery, tile work, or faience, has hitherto, and specially of late years, been very generally produced by the use of lead. Such use of lead, if it be raw lead, leads almost inevitably to illness among the workers. It is not pretended that a glaze-hand, in a pottery where raw lead

glazes are used, necessarily falls a victim, nor that a slight taint of plumbism necessarily leads on to the worst results. But any reader of ordinary humanity who will study such a pamphlet as *The Potter and Lead-Poisoning*, by Dr. Dowling Prendergast, will realise that the evils contingently attendant on this industry, especially those which strike so horribly at the well-being of womanhood, maternity, and posterity, are evils to be avoided and frustrated, even, if need be, at some sacrifice.

Now, it would not be honest to say that as good results can be attained for all purposes, at the present time, by the use of absolutely leadless glazes as by the customary methods. In the production of certain delicate colours in faience and tiles, leadless glazes have hitherto not been so successfully employed as glazes with a lead flux. This one must admit, but the admission is tempered by so many qualifications that the cause of anti-plumbism is by no means to be considered quenched on this account. In the first place, it should be observed that in the manufacture of faience and tiles the choice does not lie exclusively between the use of raw lead and the use of none: there is a certain *via media* which, if we assume (as we have no right to assume) that leadless glazes cannot be rendered applicable to delicately coloured tile work, is capable of providing admirable results and a harmless process. I refer to the use, not of raw lead, but of "fritted" lead. The term "frit" is applied by the potter to a mixture of all the materials required for a glaze which is fired at a higher temperature, and to which, as I understand, the lead, where required, is added during the process of grinding. The lead so treated, especially in a boracic frit, is found to be capable of resisting "decomposition when brought into contact with a weak hydrochloric or other acid in the human system": in other words, it is rendered uninjurious. I believe it may be said that those manufacturers of faience who at some sacrifice of immediate profit have set themselves to abandon the use of raw lead in favour of that which has been fritted have already begun to realise, not merely that they have improved their workshop conditions, but that their products have by no means suffered in appearance and quality.*

But more than this has been done. One or two enterprising pottery firms who have taken an interest in this matter have been and are still experimenting in the use of absolutely leadless glazes. They have had a good many failures, total and partial, but the improvement which has attended some of their efforts gives reasonable cause to hope that the absence of complete success is attributable at least as much to the newness of

* One should not be absolutely satisfied by the assurance that fritted lead is employed. Even in frits, the lead sometimes retains an undue degree of solubility (ascertainable on analysis), and many users of frit supplement it by a subsequent use of raw lead to assist the flow of the glaze.

the venture as to the difficulties of the enterprise. I have by me, as I write, certain examples of glazed tiles, and particularly of lustre tiles, which have gained as much as they have lost by the conditions and limitations of the leadless process.

Furthermore, there are many articles made with glazed ware in which the value of the glazed surface is rather utilitarian than æsthetic, and in such articles it is a matter of comparative indifference whether a perfect colour tone is attained or not. As an instance, though not an architectural one, may be mentioned the insulators of telegraph posts, which are now, under a Post Office regulation, made exclusively with leadless glaze. It fortunately happens that, either by choice or under Home Office pressure, all the principal makers of glazed bricks, such as are used for the walls of areas and other places where light and cleanliness are essential, nowadays turn out their simpler colours, such as white and ivory, in leadless glaze, though the more delicate colours are generally produced with lead. The familiar brown salt-glaze is, if it be a true salt-glaze, free from all lead, and under this category come most makes of stoneware drain-pipes, &c.

Among the makers of sanitary goods there has been till quite lately a certain backwardness in the cause; but at last the difficulties, which no doubt were more apparent than real, are being surmounted with such surprising success that at the present time, and under the present conditions of Government regulation, it is as likely as not that a bath or a lavatory basin ordered from one of the better-known firms will be supplied in leadless glaze. Some firms offer to produce leadless articles at 10 per cent. advance on the injurious method; others will, at the customer's option, supply leadless goods at the same price; others, again, pride themselves on making nothing but the leadless material; and certainly there is in most of such articles that I have inspected nothing to be said on the score of appearance against the use of that form of glaze which relieves the worker of the dangers inherent in the old method.

There remains the question, How are we to know that we get leadless glaze when we have ordered it? The answer is simple. In some ware the difference can be seen—by an expert eye; in others it is a matter of analysis. Even without in any way damaging the material, the truth can be ascertained in two seconds by the use of the refractometer. Now of course architects do not keep either laboratories or refractometers, and therefore the ultimate appeal is to some friendly man of science or to the Government laboratory, where I believe I may say that the director is quite ready to deal up to reasonable limits with the increase of work that might result from applications on the part of architects. Not that we need send a sample out of every order for test.

A very occasional use of this final criterion will be enough for ordinary purposes.

The sum of my suggestion in the matter is simply this—that in ordering those sanitary and other goods which are made equally well in leadless and in free-lead glaze we should assist those manufacturers who are making efforts in the right direction, by ordering the harmless variety; and that in making use of coloured tiles we should, where a client's pocket will not suffer, give some encouragement to those who are attempting the production of leadless faience if it should prove that we can secure in this material the work of art which it is our business to produce. If we cannot do so without violence to our conscience as artists—for someone will be reminding me that architects do not exist primarily as engines of philanthropy—we can at least do something by inquiring into the nature of the glazes that are employed in the material we are about to use.

Thanks to the energy of others, we have no inert mass of opposition to overcome. The ball is set rolling, public opinion—or the opinion of a section of the public—has begun to work, manufacturers have begun to meet its call, many of them, to their honour, with energy and alacrity; many official bodies have commissioned their architectural and building departments to help the cause by specifying the use of the harmless material. The ball, I say, is already rolling: it is possible for us architects to give it a thrust now and then in the right direction, and to have our little share in hastening the ultimate suppression of this evil.

PAUL WATERHOUSE.

"THE CLASSIFICATION OF ROMANESQUE" AND THE BIRTH OF GOTHIC.

MR. BOND's valuable Paper should not be allowed to pass without some discussion. At the meeting on 22nd ult. it only elicited a supplementary contribution of interest, but was not really discussed. In case Mr. Bond is able to continue, by entering the domain of Gothic in a future Paper, it may be as well not to leave all collateral remarks until after its delivery.

It will not be altogether supererogatory to recall some salient points in the Paper; for even with maps, plans, photographs, and books at hand, it wants the grasp of a "Memory-Corner Thompson" to keep cited examples duly in mind for comparison. Nor are all the works quoted available in the Institute Library.

As Mr. Bond advances several pertinent side inquiries having relation to points in chronology, &c., I may be excused if some of my remarks are but *en rapport* with the subject matter, it being

difficult to fix a boundary where Romanesque shall end and Gothic begin.

Touching the earlier classifications, to which some consideration is given—not a universal practice, by the way—we have De Caumont's geographical-cum-ornamental basis of arrangement, and certainly we must agree that it is entirely misleading if wide ramifications and "outliers" be not conceded. If we may judge alone from masons' marks, guilds and fraternities, and even individuals, moved over wide areas, unfettered by boundaries, and took their individuality with them to work in hand.

Generally, the tide of inter-provincial commerce by river and road, and following valleys and plains, induced extension of some remarkable type, but there may be no obvious reason for many "outliers." The founding of a distant branch of some religious Order, away from the mother establishment, accounts for some of them. We hear of a church in Buckinghamshire designed by the architect who planned Lund Cathedral in Sweden, an apparently unlikely track, not following the east-to-west movement.* From south and west Europe to Syria also, during the later Crusades, was a reaction therefrom, like the French work in Cyprus of the Champagne and Burgundian schools, and that by a Sicilian architect in parts of the Church of the Holy Sepulchre. Ornament, perplexing enough, can hardly, however, be ignored. Such archaic sculpture in what seems later work, and such widely spread similarity occurs, that a complete analysis of the capitals of Christendom—*e.g.* if possible—would reveal extraordinary correspondences, but could not alone allocate a building to any particular school of architecture.

Quicherat underrates the importance of aisle-vaulting, which offered no constructional difficulty, the *cruz* being the covering of a wide nave.

Mr. Bond includes this with the consideration of other features—the crossing, clerestory lighting, tower design, and plan; and when all are taken into account the difficulty is increased of arriving at a reasonable synthesis, for it may be that to

attempt more than a general grouping would be almost pedantic.

I think Viollet-le-Duc, whose classification Mr. Bond says is not very helpful, would have agreed that all those features should be considered. His seven schools (defined in the seventies), no doubt, may be subdivided if this is done; and yet, in cases of "outliers" mixed with local art traditions, some if not many cases may be found which it will always be impossible to set down absolutely to one school of architecture. It is evident that V.-le-Duc was impressed with the value of the tower in synthesis. The article "Clocher" in the *Dictionnaire Raisonné*, not mentioned in the Paper, occupies 122 pages, and supplies ninety-four illustrations. I give them as supplemental to the seven schools under the article "Église," quoted in the Paper (which only occupies thirty-three pages of that work); viz. Aquitaine (two distinct groups), emanating from Périgueux; Burgundo-Dauphignian (Autun); Auvergne (Clermont); Isle of France (Paris); Normandy (Caen); Austrasie (Aix).

M. de Vernailh reproached him with this—"C'est de pousser l'esprit d'observation au point de trop bien voir, ou du moins de voir trop de choses." M. Saint-Paul also thinks many of Le-Duc's views on foreign influence on French work far-fetched. Mr. Bond points out (p. 271) that much of it shows characteristics of more than one school, and so it is in English buildings all through the Transition period until our lancet-arch style arose; and, again (p. 289), is a reservation showing that he is in accord with M. Saint-Paul: "Il est périlleux en archéologie de prétendre classer d'une manière tout à fait absolue les divers styles d'une même époque."† Besides which there is the initial difficulty of determining whether they *are* of the same epoch.

With regard to exotics, the barrel-vaulting of Fountains Abbey is an introduction from Normandy, as the compound pier—*e.g.* in the tower at Boxgrove Priory—was a later exotic of the French school proper; or (if following Saint Remi de-Reims) a joint influence of three schools there converging—Aix, Paris, and Autun. The pointing of colonnettes and bowtels probably was the latest influence of that school on our architecture of the period.

M. le-Duc's map shows the Norman (Caen) school as crossing the Channel, and may be taken in its ramifications as giving us existing parts of Christchurch, Romsey, and Winchester in Hants; Chichester in Sussex; Rochester and Canterbury in Kent; The White Tower, St. John's, Clerkenwell, in Middlesex; St. Albans, Herts, and other abbeys and cathedrals further away. From the French school, later in date but by the same channel, I believe, came the features of Shore-

* This has been explained in a general way by Seesselberg in his work, *Die Frueh-Mittelalterliche Kunst der germanischen Voelker*, p. 95:—"Dass englische Missionäre bereits um das Jahr 1000 in Westergoetland und Småland einen festen Sitz gewonnen, und eine gewisse Organisation geschaffen hatten. Etwa 1014 wurde Bernhard in England durch den daenischen Koenig Knut in Lund als Bischof eingesetzt; etwa gleichzeitig wirkte in Roskilde der Bischof und koenigliche Kanzler Wilhelm von England. Es kann daher kaum einem zweifel unterliegen dass die ersten Kirchen in Lund und Roskilde nach englischer Bauweise in rohem stein-materiel aufgefuehrt, und der Olafskirche in Sigtuna sehr aehnlich gewesen sein muessen. Von den ersten englischen Baudenkmaelern in Westergoetland (Husaby), und Småland (Wexio?), sind keine als solche erkennbaren Ueberreste auf uns gekommen." Mr. Tavenor Perry mentioned the case, but the architect's name did not transpire.

† Saint-Paul, Viollet-le-Duc, p. 197.

ham, Steyning, Boxgrove—remarkably elegant work, though much curtailed in extent respectively; and William of Sens brought French influence to additions at Canterbury, as an isolated case. I wish we could claim more as of English inception, but perhaps it may be conceded that the handsome, boldly-moulded Norman archivolt we possess over very plain columns, as early as c. 1090, are peculiar to us; as clustered columns with very plain arches over are peculiar to France. If not, it must, I think, be conceded, we borrowed everything thence, until as by a flash of originality the lancet-arch style was born, almost negating M. Brutail's dictum—

"Jamais à aucune époque et dans aucun pays un type architectural ne s'est formé d'un seul coup."

Who were they who first introduced in Western Europe the circular and pentagonal school of church building, prior to and independent of the two orders of Knights? The point is suggested p. 272. Were they derived from S. Sepulcro, Bologna, or the pagan edifices of Rome? It is clear the Jews had nothing to do with it. It is pretty certain that neither St. Sepulchre's, Northampton, nor St. Sepulchre's, Cambridge, was built by Hospitallers or Templars. Simon de Liz is said to have founded the former, but whence came his architect or master mason we do not know. There were earlier examples than those of the twelfth century, some, but not all, being mortuary chapels. Later on baptism became the *motif*, both being subsequent to the utilisation of pagan rotundas for Christian worship. In the twelfth century we find them as far north as Sweden. The name of Saint-Germain-le-Rond* was given to a church in Paris as early as the ninth century, and its actual date (since it is attributed to Childebart) would be nearer the sixth century. What school did it belong to, if not of Lombardy?

Looking through the list of round churches, we find our best known example in the Strand among the latest in date,† and foreign influence there is not so marked, as, judging by remains lately unearthed and classified, it was at St. John's Priory, Clerkenwell, where compound piers (c. 1170) have the pointed colonnettes, which I believe originated in the district of Oise early in the twelfth century, ninety or a hundred years before use at Finchale Priory, Durham, or Roche Abbey, Yorkshire (c. 1230), the latter being a very deeply cut section.

From Romanesque work to the inception of Gothic may be but one step, but much more is implied in the general use of the term. If the solution of the problem of vaulting a wide nave with aisles as abutment was the birth of Gothic, and if, as Mr. Bond says, "it was solved before

the first Gothic architect ever handled a trowel"—I suppose at Morienval, Oise,‡ and Durham, c. 1183—then all wide-nave examples of later date in England are Gothic (whether round or pointed arches prevail in construction of the supports and features), and come into that nomenclature, and the term "Transitional" is incorrect; so that Sharpe's chronological table would be revised as Norman, 1066-1180; Gothic 1180-1190; Early English, 1190-1245. But this would be somewhat like the application of the word "Englishman" to a *nouveau-né*. As a possible or actual parent, Durham remains Romanesque.

Regarding the relative rate of progress between England and France, M. Lefevre-Pontalis assumes that the ribbed vault was employed much earlier in the west of France than in England. Was it really *much* earlier? Lessay and Durham seem to have run neck and neck. Mr. Bond says, p. 287: "The Norman school was most backward of all in the eleventh century," and on p. 282: "The unvaulted nave was nearly universal in Normandy and England till the twelfth century was well advanced"; but were not Speyer and Vézelay in the East vaulted quite at its commencement, and were not many choirs in the West rib-vaulted during the first quarter of the twelfth century, by which the problem was solved? It seems as if the credit of the first application of the pointed arch in ribbed vaulting must ever remain unawarded. What was the date of the vaulting of S. Michel, Pavia, a building apparently much older than early twelfth century, to which epoch it is now reduced from 1004 A.D.? Was the "archaic" rib vault at S. Ambrogio, Milan, p. 281, a remnant of the rebuilding of the nave in the second half of the eleventh century? If so, it would be the earliest known example. If it was part of the 1196 restoration, it would hardly be "archaic," though clumsy.

If we follow Mr. C. H. Moore, who allows us no Gothic at all in England, we must start with "Pointed" at c. 1180, antedating "Early English" sixty years; and so New Shoreham, *e.g.*, would fall under the latter classification instead of Transitional. Probably Mr. Moore's deductions are not generally accepted in England;—but of French claims a word or two presently.

At p. 272, Mr. Bond transfers the credit for statical design to the Romanesque builders, seeking to right what he believes has been wrongly attributed to the credit of later comers, on the ground that all the main difficulties had been

‡ I believe Mr. Spiers puts the date 1140 for St. Denis (described as Gothic, p. 280) as the earliest use of the pointed rib; but was not Morienval, 1122, pointed rib also, according to Mr. Bilson eighteen years earlier, and "the rib the common property of all districts which were occupied with the problem of vaulted construction?" (R.I.B.A. JOURNAL, Vol. VI., p. 262). The date of Morienval is, perhaps, doubtful.

* After the twelfth century its name was altered to "Saint-Germain-l'Auxerrois."

† Little Maplestead, Essex, comes last.

solved, but on p. 277 he qualifies that which is to be allotted to the builders of the tenth and eleventh centuries; but, nevertheless, believes that in the early years of the twelfth century, engineering skill had practically done its work, and it only remained for succeeding architects to lighten and embellish.* If the comparatively flat flying demi-arch at Gloucester, Durham, and La Trinité, Caen, and elsewhere, even barely answered its purpose of checking the outward thrust of the nave vault, it must, I think, be admitted that the later raising of a stay above the aisle roof was, as Mr. Bond says (p. 280), a "development" only; but it was surely too low to do the work *per se* without the aid of a cross-wall upon it. I incline to have greater belief in their scientific knowledge than their historical and chronological accuracy, wherein hearsay, tradition, and superstition had much injurious influence.

Cathedral choirs being so often the first part to be erected, it seems strange they were vaulted before the nave, for they had an equal width in many cases. Was it not a mere question of cost, or scarcity of masons when so much work was being done? In the smaller churches where apsidal chapels are narrow, as at St. Mary's, Guildford, Compton, Surrey, and others, the early vaulting with ribs is easily accounted for. What may be described as the archaic example at St. Nicholas, Exeter, brought to our notice by Prof. Baldwin Brown, is of great interest, and would be still more so if the date (c. 1087-1100) could be well authenticated; but it is so easy to be misled by documentary evidence, especially when not contemporary, which is mostly the case. On p. 285 Mr. Bond says: "The pointed arch was in use early," in the Perigordian school. It would be interesting to get approximate date. I do not find this view suggested in Mr. Spiers' Paper, but note that Mr. Penrose suggested that the eleventh-century domes were the first instances of its use in the district.

Fergusson, whose acumen is referred to by Mr. Spiers, did not consider the pointed arch as of great consequence in the inception of Gothic, though he could not have denied its engrafting was its life and soul. In a Paper read before the Institute more than half a century ago, he said we must guard against

Confounding the invention of the Gothic style with that of the pointed arch; . . . the first is a purely indigeno

* The weighting of the raised clerestory wall at Paray-le-Monial, or La Charité, to sustain the waggon-vault, is advanced as being quite as scientific as the weighting of a Gothic buttress by a pinnacle (p. 279). But surely it involves a great waste of material, and is not so scientific as the light but adequate *multum-in-parvo* buttress with pinnacle, though it may have effected the purpose required. Wren adopted the wall-weighting system at St. Paul's, and contrasted what he thought was its excellence with the "barbarous Gothic buttress," as he contemptuously called it.

† "Importation" obviously intended.

and native elaboration from Roman art, without any trace of copying or even imitation. The latter is a mere *subordinate characteristic* of that style, and not at all entitled to the rank it has hitherto assumed in the controversy.

Admitting its Eastern origin, he adds:

The hint was given in the East, but nothing more; it was applied to Gothic buildings in a manner it had never been used in the East, and was so incorporated with and worked into the native style that it lost all trace of its origin and became as native as any other part of the true Gothic. Northern architects so applied it in our mediæval cathedrals as to be entitled to all the credit for our beautiful buildings.

Do we now traverse this view of "subordination" in affirming that the pointed vault gave birth to Gothic? The Eastern origin of that form of arch is not now, I believe, so generally admitted, and one of the pet and seemingly pertinent theories—viz. the influence of the Crusades, in regard to all events to its transportation into Western Europe—is strongly denied by some writers; but I am not aware that anything more likely has been advanced by the objectors. There may be one thing perhaps noticeable, and that is, if it did not come as an inspiration, and if the sight of the Holy Sepulchre alone gave the hint to the Crusaders and their followers, the observation must have been close—perhaps really professional, for some doubtless were architects—because the pointing of the arches there is slight, and not much above the semicircle (*vide* Mr. Dickie's drawing, R.I.B.A. JOURNAL, vol. vi., p. 249).‡ The same applies to De Vogüé's view of Kul'at Sim'an (vol. vii., p. 381), if they ever went so far inland. In fact, except in the octagonal court, it is the bowing of a Classic entablature and cornice into a semicircle that occurs.

M. le-Duc's opinion was: "Que les Croisades aient été la cause de ce phénomène, comme quelques-uns l'ont prétendu, j'ai peine à le croire; les faits sont en contradiction évidente avec cette opinion." M. Saint-Paul asks why they did not import Syrian architects, if they were so enamoured of the pointed arch, to build for them in France. In the first place, the climate was not adapted to wholesale importation of Eastern types; then they had a noble style of their own, and the borrowing of one feature that would meet a long-felt want (in vaulting) seems natural enough. When the Prince Regent wanted an Oriental Pavilion at Brighton he did not import an architect

‡ They may date back nearly to 1010, after the destruction of the church by the Khalif. The more acutely pointed range there shown is no doubt the Crusaders' own work in restoration after 1099. Probably St. Helena's Crypt had round arches prior to 1010. The capitals are more ancient than the pointed arches that spring from them, and so are the wall-piers, in Mr. Dickie's opinion. There is an acutely pointed arch in the little church of St. John close by, a later addition, as to which both date and builder are unknown.

from India. Although Syria was some time in Christian occupation, the Saracens were not conquered in such wise as ever to desire to help or amalgamate in regard to art, commerce, or customs. All that the Crusades did, according to Michaud, was in regard to the plastic arts, viz. to impart "une espèce d'essor," imprinted on the mind by Eastern travel.

It is to be noted that the Hospitallers were not a military Order till 1118, but the Crusade in 1096, and the capture of Jerusalem, 1099, admitted of the return of followers at all events in the last year of the eleventh century, and, returning *via* Lombardy to France, they could put the new idea to the test. The French *langue* was always the most numerous and influential of the Order of St. John.

Twenty-three years ago Dr. Freshfield said: "The history of the influence of the Crusades on Western architecture has yet to be written." So far as I know, this still holds good. Though not taken as a text, the writer of the Paper, with Professor Baldwin Brown, Mr. Bilson, and Mr. Prior, are indirectly gathering data which would help in the realisation of the larger subject; and before long, I hope, if it be not from lack of knowledge I am suggesting what is already done, it will be attempted.

I lean rather to Mr. Moore's views in entertaining admiration for the engineering skill of the perfect Gothic period. Therein was freedom from all classic tradition; weight and bulk gave place to statics. Material was not wasted, *nothing was superfluous*, and herein it is natural architecture, a system of balanced thrusts; but each feature is clothed with grace and beauty. A skeleton, perhaps, in principle, for want of a better word, but a transfigured skeleton, and a thing of beauty never before equalled and never since surpassed. I think Mr. Bond goes rather far in saying "a spire is superfluous." So may be an ambulatory or a chevet, but that hardly affects the question of *modus operandi* when such appendage is resolved on.

M. le-Duc's chronology may not be tenable in every case, as, *e.g.*, in that of Saint-Front, but his deductions are not to be lightly dismissed as out of date, formed as they were by such wide research (too wide, according to M. de Verneilh, who is himself not always correct with dates) by one whom the late Mr. F. B. Hamerton, no mean critic, calls "the most learned, least prejudiced of all architects who ever lived in France." He did not claim for his own country the sole possession of Gothic. On the contrary, M. Saint-Paul accuses him of the belief that his national architecture was not an exclusively French work. M. le-Duc, however, would have affirmed that it was the nursery, though not the cradle, of Gothic, even if one only of the parents of the *nouveau-né* was French.

M. Saint-Paul seems disinclined to admit Italian influence in French Renaissance. I do not know whether he admits Lombardic influence in regard to Gothic, but I think one individual who came thence has not had his share of credit. I refer to the schoolmaster of Avranches, monk of Bec, Abbot of Caen, and Archbishop of Canterbury—the astute Lanfranc, whose advent upset the Saxon ecclesiastical hierarchy of England. A native of Pavia, fond of art, and acquainted with Lombard architecture, he not only used his knowledge to practical purpose on arriving in Normandy, but in his pupils he raised a school of enthusiastic church builders whose work may be seen both there and in England—among others, Abbots Paul of St. Albans, Ernulf and Gundulph of Rochester, and Anselm of Canterbury.* The zeal of William Bonne-Âme, who had been to Jerusalem, and other of his successors, was communicated to districts outside Normandy, and, I believe, extended into Picardy and the Isle of France, combining, however, with local feeling, which differentiated more or less from the original stem, while in Septimanie, Bourgogne, and Austrasie were retained till a much later date Romanesque traditions.

Whether we agree with depreciators of the theory of engineering skill, consciously applied, or whether we oppose that view, it is difficult, in regarding such a pile as Amiens Cathedral, to see in it the product of rule-of-thumb, and when we think of such a lofty vaulted hall as La Sainte Chapelle at Paris, without aisles to form abutment, the highest point that human skill could reach in masonry seems to have been attained in a manner that is really marvellous—I had almost written miraculous. No wonder that before the vault was keyed in the trembling of the piers was such that the workmen fled the district, in the fear that St. Louis would have them put to death, if they were not killed by the fall they felt was certain to ensue. Yet, after 600 years and more, it stands to bear witness to De Monterreau's skill and daring. Like Wren, he needs no other monument than the building he designed to keep his name from oblivion.

I would hardly suggest it was a retrograde movement, but it is noticeable that an important instance exists of a return to the old barrel-vault which was discarded centuries before. In the important Renaissance church built by the Knights of St. John at Valetta (St. John's Cathedral,

* The late Mr. G. E. Street and Mr. Prior have both demurred to a claim on his behalf as *introducer* of Romanesque, and perhaps justly so, as the Roman domination gave the primary suggestion, on to which local tradition and inspiration were grafted with varied results. Yet he may be allowed to have added its most advanced characteristics, and quickened by the impetus of his genius its extension in Western Christendom. Mr. Prior considers that real Gothic began with William of Sens' work at Canterbury Choir. Many of our bishops in the twelfth century were educated at Paris.

Malta), Cassar, the architect, omitted the clerestory, and sprang the pointed barrel-vault of 51 feet span just above the main arcade, the cross walls of the side chapels serving as buttresses. It would be interesting to have details of the construction of this vault. The small chapel of St. Elmo there has a pointed coffered vault in stone.

Mr. Spiers mentions the fluting of pilasters (they are also banded) at Autun and Langres of as late a date as 1140, and agrees with Le-Duc that the idea was derived from Roman remains. At all events, the same feature occurs in Notre Dame de Beaune, Saint-Andoche de Saulieu, the Porch at Cluny, La Charité-sur-Loire, and Saint-Trophime, Arles. Was the fluting in the pilasters at Deerhurst inspired by an unearthed Roman altar or coffin?

Mr. Bond thinks our own is but a small corner of the Romanesque field, but Mr. Bilson thinks it sufficiently important to throw considerable light upon the subject of ribbed-vaulting if the buildings are studied. As to the work in England being of a mixed character, no doubt it is so; but is it really so very different in this respect in France, taking moulding, ornaments, and all the other points before mentioned into account?

There is one thing in Norman vaulting which seems to require adjustment and a verdict, and that is the question how to decide whether a diagonal rib is contemporary or is a later addition, where the moulding of the rib does not betray its anachronism. Professor Willis, in his Paper read before the Institute in 1842, referring to the packing between rib and web (where the top of the one and the surface of the other do not correspond), says that the ribs were set out without reference to the vault, and the curvature of the rib, being intentionally regular, was packed up to fit the groin with stone and rubble, and he says most of it is required at the springing. But if I understand Mr. Bilson aright,* such packing is an indication that the rib has been added later, to strengthen the groin or to embellish the vault. Perhaps someone will explain the difference, or

offer surer general tests for deciding whether such rib is an addition, apart from whether the key-stone is of the rude lozenge shape or is properly shouldered. Why should not the curve of the rib have been made to correspond with the actual line of groin when first constructed?

In some cases I notice the arris of the extrados of the rib *does* correspond with the groin at its junction with the web on the main axis, but being concentric it cannot touch the web of the collateral intersection, and is necessarily packed to a small extent; and here I have no doubt myself that the ribs *are* contemporary. Of course, in a case like the south aisle of the crypt at Gloucester Cathedral, it is evident from the enlarged responds, the ribs themselves, and the settlement of the work, that the rib is for strengthening only, and was added later, though not at a very long distance of time. If the unribbed vaults here were built in 1089, and these ribs added twenty-six years after as sometimes stated, it would make this the oldest but one in England. Mr. Spiers (p. 293) mentions the rough centering of the vault in the crypt at Tournus, *ante* 1000 A.D. I think at Christchurch, Hants, in one part the planking may be seen *in situ*, but I cannot find my note of it. Perhaps other instances of its marks on the soffit may occur to someone. The pinched-out groins in the crypt at Rochester may have been noticed elsewhere in Norman unribbed vaults, and there may be other places besides Nikosia where pottery is used in rubble vaults of late Norman period.

Although no longer the vogue, and checked in what seemed likely to become universal adoption, it is satisfactory to know that Gothic is being academically studied by experts, and in book knowledge also by students for examination purposes; and our thanks are due to the writer of the Paper and to those who contributed others last year, and it is only with a view of continuing discussion that I set down these notes, as a student who only claims the right to say:

"J'en fais assez pour avoir le droit de dire
Je ne sais pas."

* R.I.B.A. JOURNAL, Vol. VI. pp. 203-4.

E. W. HUDSON.



Choir and Nave : looking west.

FOUNTAINS ABBEY.

THE rise and marvellous spread of the Cistercian order forms one of the most striking chapters in the religious history of the later middle ages. The influence of the Cistercian reform on the architecture of its time was scarcely less striking, but, so far as our own country is concerned, hardly any attempt has been made to investigate the extent of its influence. The elucidation of the history of individual abbeys will certainly tend to facilitate such investigation, and, although in his present work * Mr. Hope's purpose is chiefly archæological, he deserves the thanks of students of the history of English architecture for what is also a contribution towards the solution of the wider problem.

Although Fountains is rivalled, and perhaps excelled, by other English Cistercian abbeys from the purely architectural point of view, the great extent and completeness of its conventual buildings make it the most important of the examples which have survived. It is natural, therefore, that its history and architecture should have received a considerable amount of attention from modern writers. Mr. J. R. Walbran, through whose influence the ruins were partially cleared some fifty years since, edited for the Surtees Society two volumes of documents bearing on its history. Mr. Gordon M. Hills followed with an architectural history of the abbey buildings. Fountains also occupies a prominent place in Mr. Edmund Sharpe's *Parallels* and has recently been the subject of an excellent monograph by Mr. J. Arthur Reeve, from whose work Mr. Hope has borrowed some of his illustrations. Still, as Mr. Hope

* *Fountains Abbey, Yorkshire.* By W. H. St. John Hope, M.A. Reprinted from *The Yorkshire Archæological*

Journal, vol. xv. (1900). 8vo. Pp. 134, with 2 plans and 28 illustrations in the text.

Third Series, Vol. VIII. No. 15.—8 June 1901.

says, "no attempt has hitherto been made to show the true uses of the various buildings by comparison with the existing remains and documentary history of other Cistercian houses." This task has been reserved for Mr. Hope, and his wide knowledge of monastic arrangements has enabled him to give us a description, scientific and exhaustive, which it would hardly be

possible to improve upon. The paper is illustrated by a very fine plan of the buildings, to a scale of 24 feet to an inch, chronologically coloured. This has been measured and drawn by Mr. Harold Brakspear, and is a model of what such a plan ought to be. One of the many excellent features of this plan is the light tint which distinguishes the parts of the buildings believed to have been roofed in at the suppression, which not only serves this useful purpose, but also makes the plan much easier to read. The paper is also illustrated by a plan of the precinct, and many smaller drawings in the text.

Fountains was founded in 1132 by monks seceding from the Benedictine abbey of St. Mary at York. At first the monks were so poor that it is unlikely that they would be able to undertake any permanent buildings. Probably these were only commenced



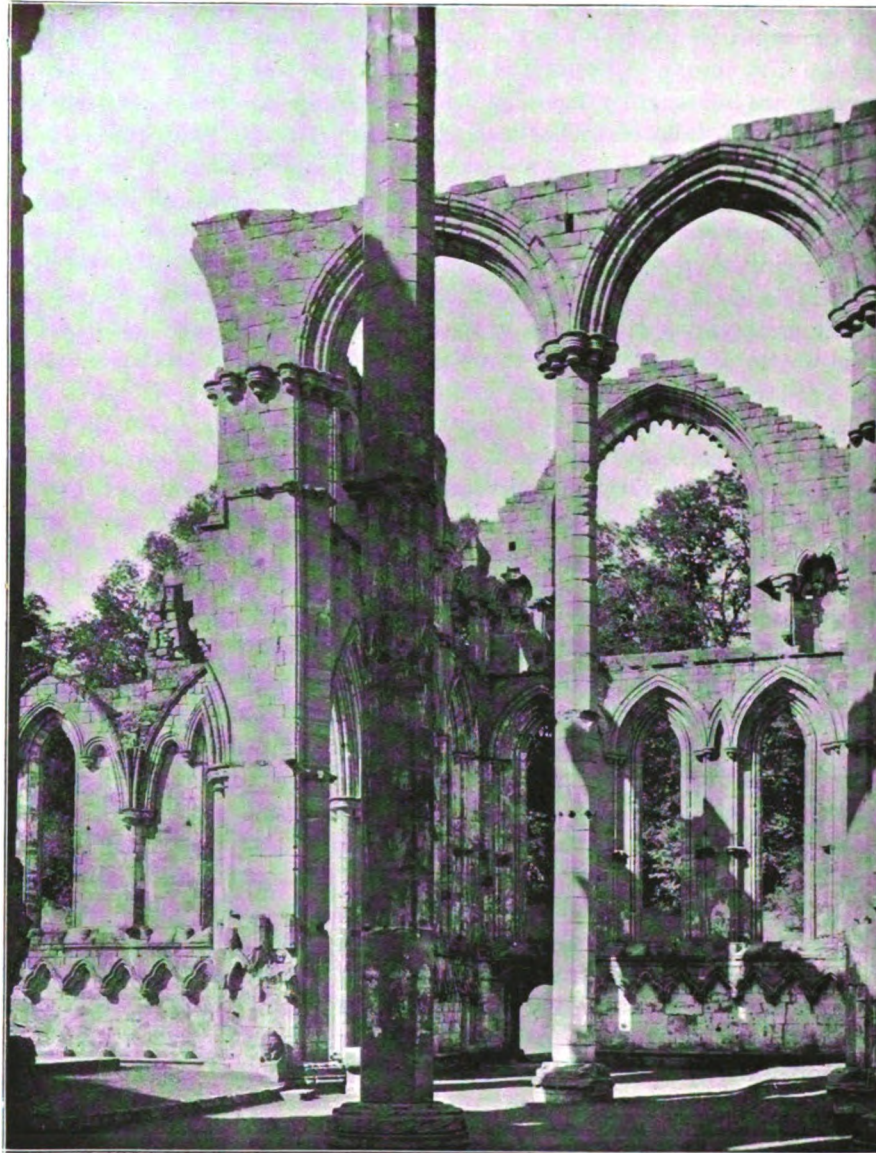
SOUTH AISLE OF NAVE.

after Hugh, dean of York, a man of considerable wealth, joined the convent in 1135. In 1147 the friends of William, archbishop of York, set fire to the abbey, but apparently the church itself was not much damaged. From the architectural point of view, it is important to ascertain how far the works had proceeded at the time of this fire. Mr. Hope thinks that the

church was then practically completed; but, however this may be, it is clear that the design of the nave and much of the actual structure must be dated before 1147. Before 1135 St. Bernard had sent Geoffrey, a monk of Clairvaux, to teach the brethren the new Rule, and his influence can easily be recognised in certain architectural peculiarities in the church. Its plan consisted of

an aisleless presbytery of three bays, with a square east end; transepts, with three square-ended chapels on the east side of each arm; and a nave and aisles of eleven bays, with a western porch. This type of plan was followed more generally than any other in the earlier Cistercian churches, and Dehio and von Bezold suggest, with much probability, that it may have been copied from the Clairvaux of St. Bernard's time.*

It is merely a simplified version of a usual Burgundian plan, and it is quite a mistake to imagine that the square eastern termination of Cistercian churches is due to the influence of English tradition. A peculiar feature of the



EASTERN TRANSEPT

plan of Fountains is the greater projection given to the chapels of the transept which immediately adjoin the presbytery on either side. To the influence of Geoffrey of Clairvaux we may attribute the pointed barrel-vaults† which cover the chapels of the transepts, and

* *Die Kirchliche Baukunst des Abendlandes*, i. 527.

† The barrel-vaults are certainly not an introduction

from Normandy, as Mr. E. W. Hudson thinks (*R.I.B.A. JOURNAL*, Vol. VIII. 360. Cf. *ibid.* Vol. VI. 290).

the system of vaulting adopted in the aisles of the nave—barrel-vaults perpendicular to the axis of the nave—a system associated in the districts of its origin with a barrel-vault over the nave itself, although the nave of Fountains was designed for a wood ceiling. It is likely enough that the early adoption of the pointed arch in the nave arcades was due to the same influence. Other features which are characteristic of Cistercian churches, on the Continent as in England, are the absence of a triforium, and the circular windows to be seen in the gable of the south transept and in the ends of the transept chapels. But for the rest, what remains of the first church of Fountains is purely Anglo-Norman in its design. The piers of the nave arcade are but slightly modified from the English cylindrical pattern, and the nave shares with other Norman churches in England the characteristic of great length.*

The demand for an increased number of altars soon led the Cistercians to abandon the aisleless presbytery of the earlier churches. The plan of Pontigny illustrates the type of extension which was favoured abroad—an apsidal presbytery, surrounded by an ambulatory and a ring of chapels, both the ambulatory and chapels being covered by a single lean-to roof. In England the Cistercians generally preferred to retain the square east end when they built their presbyteries with aisles, as at Jervaulx. The eastern aisle of Byland and Dore† leads the way to the great eastern transept of the Fountains extension, commenced by Abbot John of York early in the thirteenth century. It is most unfortunate that so much of this work has been destroyed. What remains shows a design of great beauty and dignity, characterised by the extreme simplicity due to Cistercian asceticism, which goes far to place Yorkshire work at the head of all English architecture in the first half of the thirteenth century.

Mr. Hope gives an admirable explanation of the internal arrangements of the church, which will be of great value in investigating the plans of other Cistercian churches. In his account of the conventual buildings, he works out the plan from the directions laid down in the *Consuetudines* for the Sunday procession, and he makes excellent use of a description of the arrangements at Clairvaux in 1517. Mr. Hope's conclusions must be studied in his own words, and the reader will then appreciate the progress which has been made in the investigation of Cistercian plans since the late Edmund Sharpe published his *Architecture of the Cistercians* in 1874. One of the most interesting points which Mr. Hope clears up is the real position of the kitchen. He shows that the room with the large fireplaces on the east side of the frater was the warming-house, and not the kitchen as Mr. Sharpe supposed. The kitchen was on the west side of the frater, and, until Mr. Hope explained the peculiar arrangement of its fireplaces back to back in the centre of the room, its real use had not been recognised. The explanation of the plan of the cellarer's building, which Mr. Sharpe called the *Domus Conversorum*, will probably be new to most readers.

Mr. Hope's work has appeared most opportunely at a time when the ruins of other Cistercian abbeys are being excavated, and it will afford invaluable help to those who are engaged in such investigations. Mr. Hope must be congratulated on having added an important chapter to English architectural history.‡

JOHN BILSON.

* Clairvaux, like Fountains, had a nave of eleven bays; the nave of Pontigny has only seven bays, Kirkstall eight. Rievaulx nine, Furness and Jervaulx ten, and Byland twelve.

† This type of plan was considerably developed in some Cistercian churches in Germany.

‡ As there is often considerable difficulty in obtaining copies of papers published by archaeological societies, it may be useful to add that Mr. Hope's paper is issued as a separate volume by the Yorkshire Archaeological Society, 10 Park Street, Leeds.

RIGHTS AS TO SEWAGE.—I.

By ALGERNON BARKER, Barrister-at-law (Newcastle-on-Tyne).

LAST year (a)* we considered how a watchful legislature protects the public against the "houses in between." How it sets these back, curbs their encroachments on public land, guards the streets from tunnels and over-archings, and forbids holes and heaps and waterfalls where the citizens walk.

Now we come to a different subject—namely, the grandmotherly care with which the State defends the inmates of houses from any remissness on the part of the building owner. In the previous lecture, as in this, the questions considered may be usefully taken into account before the architect puts pencil to paper, and before he has decided where he shall put his new house or whether he will go to the length of ordering some old house to be pulled down to the ground floor. In the present, as in the former lecture, I do not deal with local Acts or by-laws, or with the adoptive parts of the Public Health Act Amendment Act of 1890. It is obviously necessary to consider the groundwork of what is (except in London) universal over England before considering local modifications. One does not learn a dialect until one has mastered the language; but the catholic foundation safely laid, I hope carefully to consider the local eccentricities, for these form the bulk of the rules as to building. They meet the architect at every turn of his operations, and may largely modify the rights and duties which we are about to consider.

The first question I deal with is sewage. By "sewage" I mean to include all foul water, in accordance with the Imperial Dictionary; for it will be seen from Kinson's case, and from the Rivers Pollution Prevention Act, that the law makes no difference as to quality of sewage. (b)

In choosing your site you therefore look round for some means of disposing of your house drainage, and consider also what effect your proposed position will have upon your liability to obey various statutory requirements as to sewage; in a word, what rights will you have, and what duties? You will of course feel and be so bound up with the interests of the building owner that it is not improper, as it certainly is most convenient, to describe such rights and duties as yours. (c) I consider your rights first.

Rights.—It does not matter whether you are

in an urban or rural district, and it does not matter what kind of building you are putting up. You can drain your Gothic cowhouse, or your Japanese pigstye, or the Tudor hennery, as freely as if it were a dwelling-house or warehouse. (d)

First, as to the receptacles which do not belong to any local authority (by "local authority" I mean a District Council, rural or urban, or a Borough or City Council):—

Sea and Tidal River.—There is the sea with its ever-increasing hoards of salt and its purifying weeds, and there are the tidal rivers up to the top of the tide. You can pour your sewage into these without fear of the Rivers Pollution Prevention Act of 1876, except so far as the Local Government Board has fenced off some portion as "taboo."

Sewage Watercourse.—Again, if you can prove that before 15th August 1876 the watercourse into which you drain was mainly used as a sewer, and that it empties directly into such sea or tidal river, the same Act cannot touch you (though you may be otherwise liable). As to this watercourse, however, both the facts and the law will cause considerable difficulty—the facts, because you are unlikely to know the condition of the watercourse twenty-five years ago; and the law, because cases on the subject are remarkably scarce. I only know of one, a Portobello case, which, however, hardly informs us as to the exact amount of pollution (e) necessary in order to deprive the Rivers Pollution Prevention Act of its sting. Such a watercourse will probably bring you under section 21 of the Public Health Act as being a "sewer." The Cam, below Cambridge, is so foul that it is stated the rowing men objected to the Town Council diverting the sewage from it because there would be nothing to row in. I cannot say if under the Act you could pour your sewage into the Cam; probably not, but everyone does. Even where you have proved that the watercourse was so foul twenty-five years ago, you must still show grant or prescription by twenty years' user to foul it, or you cannot come in under the wing of the Rivers Pollution Act, for it does not free you from liability for private nuisance. I may also observe that even if you had prescriptive rights, you might still be liable for public nuisance. I fear, however, that the Rivers Pollution Prevention Act is practically a dead letter.

Rural Field Ditch or Cesspool.—Then, again, you might in rural districts drain into your field ditch (f) or cesspool, subject, in the case of a

* See notes at end of Lecture. This lecture was delivered before the Northern Architectural Association in Newcastle on the 19th February last, and has been considerably revised and supplemented by the author for the purpose of the present publication.

"house" (g), to being liable to "subsequent alteration," as I call it, by the rural authority, if the drain was "insufficient," under section 28. (Urban authorities also have these powers of subsequent alteration.) I deal with all these matters under the head of "duties."

Urban Cesspool.—Again, you can in an urban district drain into a cesspool, subject to this—that if the drain of your house (g) is insufficient, or if you are newly building or totally rebuilding a house, and in either case if at the same time the site is within 100 feet of a sewer which the local authority of that district are entitled to use, you will be deprived of this right, as we shall see when we come to consider your "duties."

Whithersoever you drain you must see that the smell of your sewage does not create a nuisance, whether private or public. (f) Nor can you commit a trespass. If the land or road of a private individual or of the Crown intervenes between you and the sea, tidal river, field, or the like, you must come to terms with the owners. In the case of the property of a private individual or County Council intervening, you might be able to get compulsory access with the help of the local authority by making your drain a "sewer" and vesting it in the local authority, as suggested later, but you cannot thus treat the Crown. The authority, however, cannot dump a cesspool on another man's land, unless they buy the property.

Home Sewers.—We now come to your rights to connect your "drains" with the "sewers" of your local authority, urban or rural. These I may call "home sewers." Section 21 of the Public Health Act of 1875 reads thus: "The owner or occupier of any premises within the district of a local authority shall be entitled to cause his drains to empty into the sewers of that authority," &c., subject to certain conditions. I do not trouble you as architects with the meaning of "owner or occupier," but we shall have to decide what "drains" and "sewers" are, and what sewers vest in the local authority, and, after this, under what conditions you can exercise this right of connecting your drains so as to empty into their sewers.

"Drains," What are?—First, you ask whether your conduits are "drains" in a statutory sense. The tests to apply are—

Whence does the sewage come?

Whither does it or is it intended to go?

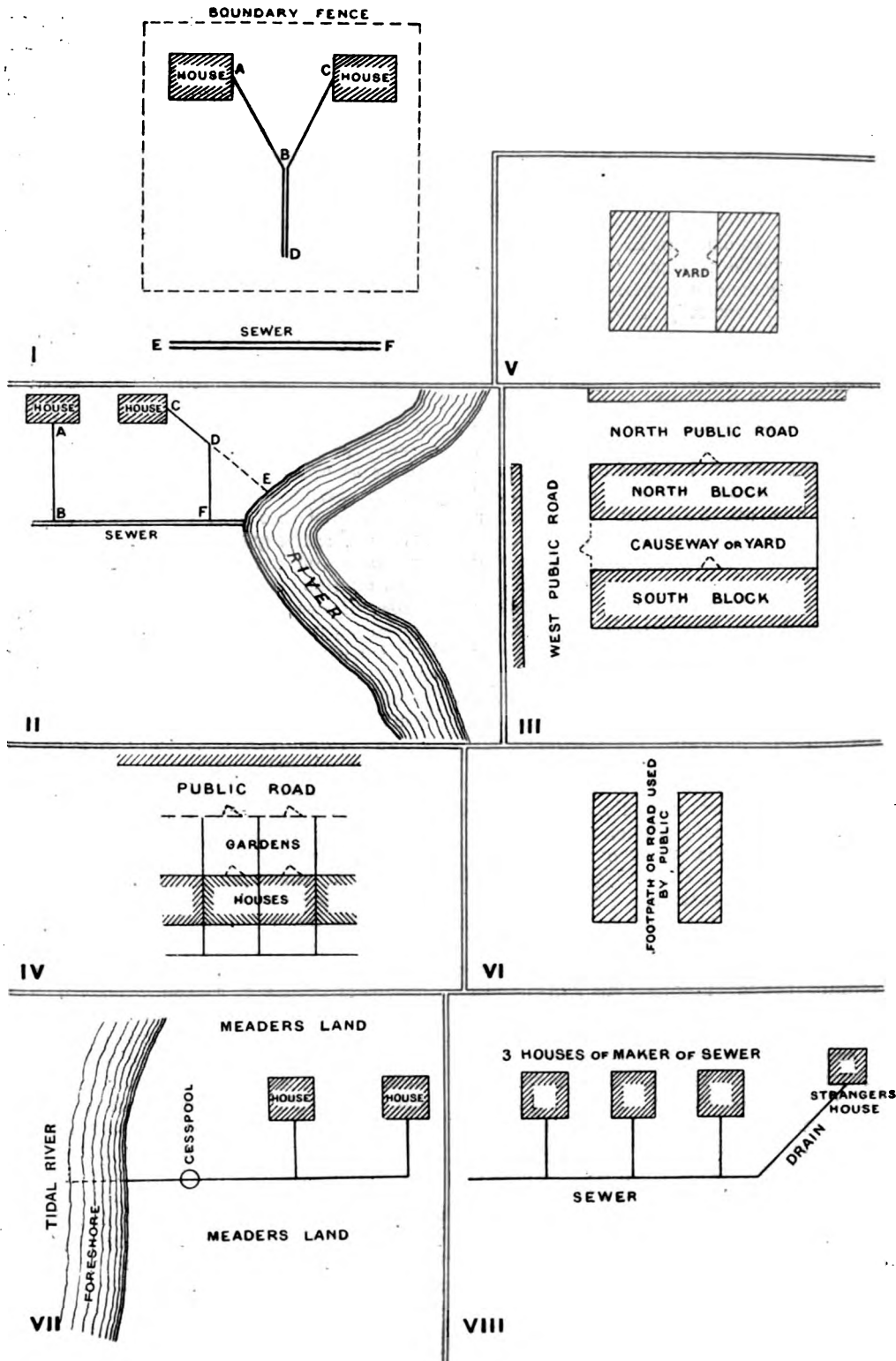
As to the origin, we are dealing with drains for sewage, so that my remarks, of course, need not be considered unless you are putting up a dwelling-house, cowhouse, hennery, dog-kennel, pigstye, or some premises from which sewage would flow. (d) Sometimes, however, there will be a group of these buildings, as we see in diagram 1, having a yard or garden in common, and fenced off from the vulgar herd so as to form a snug little clique to themselves. In such a case it may be hard to say at once whether their common drain-pipe or

channel is a sewer or a drain. I enter into this question very fully hereafter, but it may here be stated that if the group form one set of premises the conduit BD will be a drain, but otherwise it will usually be a sewer. If BD is a drain, you will have to go hat in hand to the local authority and listen to their orders, and sometimes even require their sanction, if you would connect it with their sewer EF; but you cannot pass that hat round among the ratepayers—you must bear the expense. If BD is kind enough to be a sewer, then you have already connected AB and CB with a sewer, viz. BD, for you built them all at the same time; (u) and if the local authority refuse to connect the one sewer with the other—namely, BD with EF—then it is not a question of hat in hand, but of foolscap for a petition to the Local Government Board to force the authority to connect the two sewers, or otherwise to afford you sufficient sanitary facilities, and (unless there is in operation the adoptive Public Health Act Amendment Act, to which in this lecture we shut our eyes) you will not have to bear the expense of thus connecting the sewers, save in certain cases. The local authorities will also have the pleasant duty of cleaning and mending but not reconstructing (s) BD. It may be well, therefore, to sever your premises—that is to say, so to arrange them that there shall be two and not one—and to have the sewers joined for you, rather than to enjoy the rights we are now discussing of connecting your drains with a sewer. When you have obtained a sewer, you can unsever the premises and unite them in one, for "Once a sewer, always a sewer." (t)

Or it may, e.g. if you wish to keep the Council's workmen out of your grounds, be desirable not to make BD into a sewer, in which case you will not do so. I deal later with the method of making a conduit into a sewer by severing your premises, and by other methods, when I come to discuss your means of forcing access across the intervening property of unwilling neighbours. I also in another place treat of petitions to the Local Government Board, and the ritual with which such petitions should be accompanied.

The second and last test is "whither away" or where intended to go.

A problem which I wish to discuss under the above head is whether certain conduits (which we postulate to be not sewers, so do not at present trouble about that question) can be called even "drains." (h) Suppose the drain empties into a hole in the ground or into a field and percolates into the soil? Well, I think that (*pace* the case of *Croft v. Rickmansworth*, which was decided on different language in a different statute) the conduit will be a drain (unless, of course, it is a sewer). Suppose it empties nowhere, because it has nothing to empty, being dry, like the drain AB from the incomplete house in diagram 2? I think, after considering the Beckenham case,



that your intended drain is a drain. Otherwise, one might as well say, "You shall not go into the water until you can swim." An absurdity similar, but not so glaring, was dwelt on in the case of *Jones v. Conway*, decided in 1898. Next suppose that, instead of being virgin, your goddess Cloaca—or shall I call her "Cloacilla"?—has already been and is wedded to Neptune or the River God; in other words, that your premises have been draining into sea or river, like the conduit *ce* in diagram 2. Lumley holds that the conduit would not be a "drain." (We postulate that, only coming from one set of premises, it is not a "sewer.") I think, however, when you had decided—perhaps because the authority were deodorising their sewage or for other reasons—to divorce Cloacilla from Neptune and to wed her to the authority's sewer *BF*, that on the above principle you would, by proposing to change the destination from sea or river to sewer, be held to be "making" the drain for the purpose of "communicating solely with a sewer . . ." Otherwise, if you are forbidden to connect a conduit, because it had committed the error of draining into a river or sea or into a field, you will either be forced by the Act to do so still—which would be curious conduct on the part of an Act intended to discourage pollution of rivers and not to encourage pollution of the sea—or else you would be forced to lay new drains, in many cases parallel with your old drains, in order to come under this Act. This would be ridiculous, though good for the tile trade. A similar anomaly is commented upon in *Ferrand v. Hallas* (*L. R.* at p. 140). Therefore I think that the change of your intentions changes the name of the conduit into "drain." Again, one may argue, this sea and river fouler which intends to turn over a new leaf must have new work, *nr*, added to it at its sewerward end in order to reach the desired sewer. This new work is, as we have seen, clearly a "drain," and can empty into the sewer; and of course you can empty your conduit, even if it is not a "drain," into this new and undoubted drain as legally as you can empty the teapot or the bath, while this new drain can, under section 21, empty into the sewer. So much for the article to be emptied; now we must search for the sewer into which it is to pour its contents.

Map of Sewers.—You need not dig and probe the earth and take up pipes to see if the name of the local authority is embossed upon them, or if they are labelled "sewer." The first and most obvious course open to you is to go to the office of the local authority and ask to see their map of sewers. All local authorities, whether urban or rural, must make such a map and show it "to all persons interested." (*i*) But the map of sewers is only made by human hands, and may be inaccurate in designating as "sewer" that which is no sewer, or in not calling "sewer" that

which has a good claim to such a title. For this and for other reasons which will appear later, I propose to investigate the meaning of the word "sewer" as contained in the Act; after this I shall discuss the question as to what sewers vest in the local authority.

"Sewer."—According to the definition given in the Public Health Act the word sewer includes "sewers and drains of every description, except drains to which the word 'drains' interpreted as aforesaid applies, and except drains vested in or under the control of any authority having the management of roads and not being a local authority under this Act." That is to say, the Act excludes "drains" as defined above, and also any County Council drains of main roads, for practically all other public roads are vested in the local authorities. All that is left comes under the denomination of "sewer." When you have considered the meanings of "sewer" which I now proceed to classify, you will be in a still better position to understand the meaning of "drains."

Sewers fall into two classes—namely, water sewers and sanitary sewers, the latter being called "sanitary" on account of the repulsiveness of their contents.

Water Sewer.—A water sewer may be open or covered in, and is a drain used for the surface drainage from roads and streets, or from or to private fields. The curtilage question is of no importance in deciding what is a water sewer. Instances may be found in a supposititious case in *Ferrand v. Hallas Land Co.*; in *Russell v. Knight*, where the water sewer was a drain from a quarry; in *Durrant v. Branksome*, where it was a surface road drain. *Croysdale v. Sunbury* affords an example of a private irrigation sewer, and in the *Kinson Pottery Co. v. Poole* we have a surface road sewer. Lastly, in *Sykes v. Sowerby* you will find an instance of a water sewer from a road to protect the quarry beneath from floods. These cases were decided in 1898, 1894, 1897, 1898, 1899, and 1900 respectively. The case of *Sykes v. Sowerby* is worthy of special attention. Connection cannot be made with these, for they are, as we learn from *Sykes*' case, beyond the scope of our sewage Magna Charta, the sanitary part of the Public Health Act. If the water sewers are the local authority's road drains, then they fall, I grant you, under section 16 (see *Durrant v. Branksome*, 1897), the section which allows the local authority compulsory access for their sewers across roads or land—for draining of roads is, after all, a sanitary matter, and the drainage of roads is very often genuine "sewage," but you cannot turn your sewage into these road-sewers under our section (the 21st), as we see from *Kinson*'s case.

Sanitary Sewer.—We now come to sanitary sewers, sewers for sewage; that is, for dish-washings, soapy water, &c., generally, for the law

makes no distinction. (b) I propose to apply eight tests to a conduit in order to see if it is a sewer:—

1. Its source, or whence it comes.
2. Its destination, or whither it goes.
3. Its form and materials.
4. Its history and purpose—that is, whether made by man; and if so, by whom, and also why it was made. Its proportion of foulness also may be considered under this head.
5. Its antiquity, or how long it has been fouled.
6. Its locality, or on whose lands it is.
7. Its legality—that is, whether the local authority or the original owner sanctioned its becoming a sewer. (r)
8. Its originators, or who made it.

As to its source, the question will be whether or not it drains more than “one building or premises within the same curtilage.” If it does this, and provided it passes other tests, it is a sewer.

What do we mean by “premises within the same curtilage”? The word “curtilage” is ambiguous, meaning either a ring fence or a yard or outbuilding.

We shall find that there are four considerations to be taken into account in deciding whether premises are one or more than one.

1. An actual ring fence round the premises, or, in other words, the fact that the premises are not divided by roads or property belonging to others or used by the public. (See diagrams 1, 3, 4, and 5.) This is an element of union, but will not necessarily unite two buildings.

2. Private communication between parts of the premises—that is to say, the possibility of going from one to the other without touching roads or property belonging to others or used by the public. This is not the same as the ring fence; it is more than that, as diagrams 4 and 5 show. In No. 4 there is a ring fence, but communication is only by a road used by the public; in No. 5 there is not only a ring fence, but private or internal communication across the yard. Private communication is, of course, a very powerful uniting factor. (Such communication is seen in diagrams 1 and 5, but not in diagrams 3 or 4. Diagram 6 shows the absence of both ring fence and private communication.)

3. The necessity of one part of the premises to the other or others, which causes the law to overlook and ignore the division between.

4. The fact that the occupier of one part of the premises is the occupier of the other has a uniting effect. A letting out of part of the premises has sometimes a severing effect.

Now to consider the cases. In *Doe v. Collins*, which was a case on the construction of a will, a curtilage is described as a ring fence, and the Court in that case decided that a coal-hole on the other side of the public street from a house which had no coal-cellar must on account of its neces-

sity to the house be held to be within the same curtilage, and to be therefore part of such house. Perhaps *à fortiori* such a coal-hole would have been part of the house for the purposes of the Public Health Act and for its definition of the word “sewer.” Another definition of a curtilage is a place for putting wood, coal, or timber. In *East* a curtilage is defined for burglary purposes as including dwelling-houses, out-houses such as barns, stables, cow-houses, dairy-houses, and the like, though not under one roof, if within the same common fence; and Justice Cockburn in a burglary case adds warehouses to this list. I must, however, remember that I am speaking to house-builders, and not to house-breakers. There are cases as to whether houses are one or many for the purposes of a surveyor's fee; but that, though intensely interesting to surveyors, is quite irrelevant to the subject in hand. The cases which throw light on that subject would only throw shadow on this.

We next come to four cases under the Lands Clauses Act by which, on the principle that you cannot insist on buying half a pair of boots at half price, it is enacted that railway companies and others cannot compulsorily buy up part of a house. In *Marson's* case the public-house door could not be approached without driving over the open space in front of it. The open space was treated as part of the public-house, so that the company could not buy one without the other. In *Lord Grosvenor's* case a block of almshouses stood next to the site of an intended block and gave into a garden, houses and garden being fenced off from the public road. The site and the garden were treated as being within the same curtilage as, and therefore one with, the completed almshouses, because the one was necessary to their finish and the other to their enjoyment. The third case was that of *St. Thomas's Hospital*, which goes farther than the last, for the garden was decided to be part of the hospital, though bought long after the hospital was built. On this occasion the Judge stated that he would not have held a garden to be part of a house if it were let out to tenants or if a street divided house from garden. The last of the Lands Clauses cases is that of *Steel*. Mr. Steel was a man of position, with a nice house having at the back stables well filled with horses. He had a field, 750 yards away from his house, on the other side of a public road. In that field was a cottage where his grooms slept, with doubtless a pleasant sense of freedom. The field grew hay to feed the horses at the house over the way. For all that, the cottage was not considered as part of his house, though his servants slept there. As for the field, the hay was held to be accessory rather to Mr. Steel's personal comfort (through the medium of his horses) than to his house.

Then there is a case under the law as to gun-

licences, which law allows you to shoot in your own backyard or curtilage without a licence. In this case Mr. Asquith proceeded against Mr. Griffin for enjoying a little sport in an orchard behind the house without having paid his scot to the Government. The orchard adjoined the house and yard, and communicated with it by a small wicket-gate, but in order to cart the apples to the house he would have to go through a neighbour's land. The orchard was held to be no part of the house and not in the same curtilage. So Mr. Griffin had to pay dearly for his "bag" of sparrows.

We come, lastly, to two well-contrasted cases, both decided in 1895, and both dealing with this very subject of sewers, and therefore very much in point. One is a Shoreditch case, in which Pilbrow was plaintiff, and the other is the St. Martin's case. In the Shoreditch case the blocks of buildings, flats, or "apartments," as we see from the third diagram, were parallel, and between them was a yard or causeway, having a wall at one end and a railing and gate at the other. The north block faced and its one door opened into the public road to the north of it, but did not open into the causeway. The south block faced and its one door opened also northwards, but did open into the causeway. The causeway opened by the gateway in the railings into the west road. So that, if Mrs. Prig of the south block wanted to go and have tea with Mrs. Gamp of the north block, she would have to go out of the gate into the west public road and round by the north public road, and thus into Mrs. Gamp's drawing-room. If, however, it was only a little bit of scandal they wanted, Mrs. Gamp's windows looked out on to the yard, and she could empty her dust there while she talked, for the buildings had a common dustbin. Not "one flag," but "one ashpit"—that was what united north and south. Lord Esher, as usual, took a common-sense view of the matter. The two blocks were surrounded by a ring fence. The purpose of the builder was, said he, to be considered. When the sewage question was discussed, it was of little use to pore over musty old tomes on conveyancing. Justice Lopes said that the common ashpit formed the bond of union. If, thought the latter, a common cowhouse is, as authority states, a bond of union between two houses because it is a convenience to their inhabitants in sheltering animals that they do want, then an ashpit used in common by two blocks of buildings is a link between them because it receives ashes that the inmates do not want. This, in my own language, is what I may call the rule of the common bond. Lord Esher thought the ashpit unnecessary for the decision. He also seems to have considered that if the causeway had been a thoroughfare this would have made the blocks two distinct buildings. There is a difference between the two cases of my only being

able to get from my house to another by passing over a public road, and of my house being divided from another by a public road, as you will find when calling next door on a muddy day to grumble about the piano through the wall. (Contrast diagrams 4 and 5.) Again, Lord Esher said that if the yard had been a great square you could hardly have said that all the buildings round it were in the same curtilage; for instance, that all the houses round the Leazes were only one house. That would be too much like the tail wagging the dog. (I do not repeat his words verbatim.) Note that though different tenants occupied these fashionable "apartments" they were one; but, as Lord Esher stated, it would have been different had they been let on long leases, or even perhaps at a tenancy of over a week, or as separate houses. In other words, when Mrs. Dinnis and Mrs. O'Rafferty occupy different rooms in one building merely by the week, the house is divided only in a parliamentary or military sense. According to Lord Esher, the law seems to lean against holding premises to be two rather than one. It thinks of the poor ratepayer. Note here also that (Rigby dissenting) it was held that one curtilage or yard could join two buildings.

The other case (St. Martin's) was with regard to Lowther Arcade, where we buy toys and dolls. It is, as you know, a very inferior imitation of our own noble arcade in Pilgrim Street,* through whose solemn vaults a dim religious light is shed on legal literature, nautical eloquence, and linoleum. It differed, however, from our building in that there was no general right of way; the public had merely leave to pass through it on week-days before 9 P.M. In spite of this it was held that each of the buildings giving on to the arcade was a different house. These two cases will prove very useful in deciding *à fortiori* as to the oneness or twoness of many buildings within your ken. The common drains in the first case were not "sewers;" the common drains in the second were "sewers."

I may now sum up the information which we have gathered from all these cases. We find there four factors which may tend to unite, and their opposites which may tend to sever, a set of premises. The uniting and the severing factors must be duly weighed and compared in order to ascertain whether premises are two or one.

1. A "ring fence" round premises will tend to unite them. Whether this consists of a wall, a fence, a ditch, or a man with a gun matters not. If the public is actually prevented by day as well as by night (see St. Martin's, the Arcade case) from using a way through the premises, they will be considered as enclosed by a ring fence (see diagrams 1, 3, 4, and 5).

The opposite to a ring fence—viz. a way through

* Newcastle-on-Tyne.

the premises—whether it is rightfully or wrongfully used by the public, constitutes a powerful severing factor. If the public user of the way depends not on mere acquiescence, but is justified by legal right, this dividing factor will, I think, be all the stronger. So, again, a bridle-way, and still more a carriage-way, might sever where a foot-way might not. A foot-way, however, might, as in the *Arcade* case, be sufficient to divide.

2. "Private communication" from one part of premises to another (as shown in diagram 5) tends more strongly than a "ring fence" to unite them. Indeed, it presupposes a ring fence, for to say that there is a ring fence is only another way of stating that no alien or public property intersects the premises. A private carriage-way will unify more certainly than a private footway (*Asquith v. Griffin*); but a rarely used passage under the roofs of two semi-detached villas did not, though it allowed communication between them, make them one house. (j)

The absence of private communication is, of course, a severing factor, though not a very strong one if a ring fence remains. (k) This would be the case if, in order to pop in next door for a quiet rubber, Mrs. Jones, having tapped on the wall to ask if her semi-detached neighbour is at home, has to put on her goloshes and brave the mud either of a roadway or footway which belongs to someone else, or worse still, of a public road. See diagram 4, and compare Harvie's and the *Shoreditch* cases. Diagram 6 shows absence of both "ring fence" and "private communication."

3. "The necessity" of one part to another may unite in spite of the presence of severing factors. Thus, the Court in *Doe v. Collins* held the coal-hole to be one with the house, although a road divided them. Where uniting factors 1 and 2 are in operation *a fortiori* one part of the premises will be held united to the other, *e.g.* the gardens to the almshouses and hospital respectively in the *Grosvenor* and *St. Thomas'* cases, or the fore-court to the public-house in *Marson's* case. (In many of our pit villages the ash-pits, &c., are across the road.) The necessity must be a necessity to the house, and not to the person, like Mr. Steel's hay. Horses are a luxury, but I think a kitchen-garden across the road would be part of the house.

Further, this necessary part may do more, and itself act as a "common bond" between two other parts of the premises. Thus, in the *Shoreditch* case the yard and the ash-tub united the two blocks of buildings, even though there was no "private communication" between them, but would not have done so had the intervening yard been a public thoroughfare. I think, however, that in order to make anything a "common bond" between two others some other of the elements of union beside "necessity" should be present.

On the other hand, if, whether necessary or not,

his adjunct be disproportionately large when compared with the premises to which it is to be united or which it is to unite, we shall have a severing factor, viz. "disproportionate size." Thus, the size of the orchard in *Asquith's* case prevailed against the "ring fence," the limited "private communication," and the identity of the occupier of orchard and house. (m)

4. The fact that both parts are in the occupation of one person will be a uniting factor. Sometimes, though the inhabitants are various, two or more blocks of buildings or land will be held to be in the occupation of one and the same person or body. This will be the case in almshouses, (n) colleges (n)—(see the *Grosvenor* case, 26 *L. J. Ch.* 785, bottom of column 2), barracks, and also where rooms are assigned and reassigned at the will of the superiors, or are let only for periods of a week or less, as in the *Shoreditch* case. This uniting factor has its degree of potency. Thus, if I and my family live on both sides of a street, my houses might be one, whereas if I turned the houses into a lodging-house and "annexe" they might not. If the occupier (o) of one house allows his servant to use the other in lieu of part of his wages, and if also the servant could not perform his duties if he resided elsewhere, the master would be held to occupy both houses. Thus, where the house-laundry or the stable, or other service-plant, as I may call it, is attached to the servant's house, the master and not the servant is the occupier; but an ordinary cottage of his master's occupied by the servant, whether or not he paid rent, would not be held to be in the occupation of the master.

Separate occupation is, of course, a severing factor, but only occupation for a term exceeding a week can have this effect. In *Harvie's* case, and the supposititious instance alluded to in the *Greenwich Railway* case, separate occupation prevailed against "ring fence" and "private communication." Premises can therefore be severed by letting out a part for a period exceeding a week (see the *Shoreditch* and *St. Thomas'* cases).

These four points, viz. "ring fence," "private communication," "necessity," and "identical occupation," with the corresponding severing factors, are the matters to be considered, to be duly appraised, and to be weighed one against the other. I may now mention various other matters in order to observe that they are mainly irrelevant. Thus, the relation of master and servant will not necessarily have a uniting effect—at least, if a public road and 750 feet intervene, as in *Steel's* case. I doubt whether if one's mother-in-law lived next door it would make the houses one. Further, it does not matter how many families live in one house (subject to what I have already said), even though it were as well let as the room in *Glasgow* which had one family in each corner, and one in the middle, and who got

on "Vara weel until Betsy in the middle tuik in lodgers."

Another point which need not be considered is whether the roofs join. The fact that they join will not make two premises one—for instance, the Arcade; the fact that they do not join will not of itself make them two, as we learn from *old East*. Nor will a single set of premises be held to be two sets simply because the one part, like the hospital gardens, was bought at a different time from the other; or that, in the case of a long leasehold, as in *Siegenberg's* case, one of the houses was held by the tenant of both on a different lease from the other.

The law leans against dividing up the premises, for it thinks of the rates.

Having decided whether given premises are one or more than one, after weighing their various severing and uniting factors, and giving to each factor its due weight, we are at liberty to say that, if its source is one set of premises, it is not a sewer; but if its source is more than one set of premises, then it is a sewer—that is to say, a sanitary sewer.

We will now test these conclusions with a few problems. In this city stretches a great lead factory—sheds, foreman's house, and many weird forms of building being surrounded by a ring fence. From every test it is one set of premises. But there are other works, less convenient, which the public road divides. If there is a "Bridge of Sighs" across (j), then clearly they also are one; but if not, even then the intimate and constant communication between them and their mutual necessity might be held to unite them—"Hands across the sea." But one's office on the quayside, with its scented cedar fittings, and one's bone-manure factory down the river will not be one. Then suppose that in *Doe v. Collins* two houses had used the same coal-hole across the road, I cannot think that this would be enough to unite them. To say so would be as bad as the ancient fallacy which ends, "Gin is a spirit, a spirit's a ghost, and a ghost is nothing." The common convenience having to unite two premises would need other elements, such as the "ring fence," or perhaps "private communication" to help it. The almshouses near the Manors are clearly one house. You must, as I say, carefully weigh all the elements of union with all the elements of disunion. I may add, by the way, that the effluent from a sewage farm is a sewer; but then, of course, it takes many, many premises to feed a sewage farm. From the above it will be seen that if I put up a distinct house, as soon as the first drop of my dish-washings trickles into the pipe which is common to my neighbour's drain and mine, that pipe becomes a sewer.

But all this is not true if the conduit does not pass the "destination test." As the Judge said in the recent case of *Meader v. West Cowes*, that cannot be a sewer which leads no-

where. In that case, as we see from diagram 7, after the drainage of several houses had flowed by a common pipe into a cesspool it passed over Meader's land through an effluent pipe, and thence trespassed over the land of the owner of the foreshore. Mr. Meader wanted to call it a sewer, and thus set the Council to the unpleasant work of cleaning it out. The unauthorised (p) tour over the beach was not considered by the Judge as an outlet at all, and the pipe was treated by the Court as if it had been always corked up at the point where it reached the edge of Meader's land. In cases where the cesspool never has had any effluent channel the rule will on *a fortiori* grounds apply more clearly (*Sutton v. Norwich*).

The next and third test is that of form and material. As to form, we gather from the cases that a sewer to be such need not be covered in. There need be no "sound of a hidden brook" such as the poet describes. The conduit, however, must not be a hole like a cesspool, unless it is merely a man-hole. The effluent pipe from a cesspool will, if used for over two sets of premises, unless it trespasses, be a sewer. As to materials, bricks and mortar are not essentials to a sewer, as they are to pastoral work; the sewer may be an iron pipe, or of porcelain, or wood—nay, it may be a mere excavation in soil, like a ditch. As we shall see, it may under certain circumstances be the bed of a natural stream. In any case the source and destination test must be passed.

The fourth test is that of the history and purpose of the sewer. In other words, "Need it have been made by man? and if it was fashioned by man, is the purpose of its originators when they formed it to be considered?" Can it say, like Topsy, "'Specs I grewd'"? Yes, but the process takes a long time. Thus by 1895 the Dean Burn at South Shields, which, as we learn from *Falconar's* case, had fallen from its high estate as a natural agricultural stream, and had from 1795 to 1845 seen better days as a feeder for a reservoir, was held to be a sewer, because it had by degrees become a channel for the reception and carrying-away of sewage—that is, of course, the sewage of several (in that case at least twenty) houses. After this the numerous examples of open natural watercourses being held to be sewers will not surprise you. In *Wheatcroft's* case, as in the above cases, the antiquity of the fouling seems to have been a consideration, and in all cases a preponderant proportion of pollution was necessary. (q) In *Sutton's* case and *Kirkheaton v. Ainley*, which confirm this statement, we are not told how long the watercourses had been polluted. In *Fordham's* case we are told the pollution was ancient. On the other hand, we are told in a local case that the Ouseburn is not a sewer (though I have sometimes thought it seemed rather like one). The reason for this was that the purer water was

in the majority. In *Pentney's* case a tidal fleet was held not to be a sewer, because in that case previous local and other Acts had forbidden the pollution of tidal fleets. The case, however, is distinguishable, and statutory prohibition could not prevent a stream from becoming a sewer if the fouling were sufficient in duration and quantity. Therefore, to sum up, if a watercourse is to be held to have become a sanitary sewer—by which I mean a foul sewer—a very considerable proportion of it should for a very considerable time have consisted of sewage; but of course this sewage must come from more than one set of premises, and not (say) from some vast hospital. If the watercourse was made by man for clean water the same rules will perhaps not apply (*L.N.W.R. Co. v. Runcorn*, [1898] 1 Ch. 84, at 43 bottom, and 44 bottom).

The above are cases of an intention by Nature that the watercourse should be a clean one, and of the overruling of this intention by subsequent pollution. Now we come to the case of a conduit made with the intention of receiving the sewage of more than one house, but which as yet has not received any—being, in fact, a dry conduit. The rule is that if any person or body of persons other than a local authority makes a conduit, it does not become a sewer until it receives the sewage of more than one set of premises. This we may gather from the *Beckenham* case, decided in 1896—a case which also lays down the law contained in the next sentence. If a local authority makes a conduit, intending it to be a sewer, it becomes a sewer even before it receives any sewage. From this you see that if you want a conduit to be a sewer in its dry condition, you must make the Council the masters of your workmen to that extent, and let them choose which of your workmen they will employ. Again, in addition to this, the Council, in order to be held to be the master of the men, and therefore the maker of the sewer, must have control of the modes and methods of making it.

Next we come to the antiquity test, which we have already perforce considered. How long need a sewer be fouled by a sufficient amount of sewage from more than one set of premises? The answer is that if it was made by Nature, but not, perhaps, if by man with the intention that it should be clean, and has been fouled for a long time, it possibly may have thus become a sewer. Where a person or body of men, not being a local authority, constructs the conduit with faecal intentions, such a fouling for one moment is enough. Where a local authority makes the sewer, intending it to be a sewer, no such fouling is needed to make it one.

As to the locality test, or the question on whose land the sewer is, *Travis v. Uttley* and numerous cases decide the fact that this does not matter.

You next ask as to legality. Need the birth of

a sewer be heralded by notices and blessed by sanction? No; into whatever scrapes the first wrongdoer might get for pouring his sewage into it, a conduit, by the simple process of receiving sewage from more than one set of premises, may become a sewer and vest in the authority without their knowledge (*r*)—even so far as to confiscate the pipe or channel of some innocent third party who knew not that the fateful drop of dirty water was trickling in from a second house.

Lastly, we consider who dug the sewers. Well, as we have said, if Nature with her gathered showers dug them patiently through the countless ages, and perhaps if any persons designing a pure watercourse were their authors, we have seen that long and considerable pollution may sewerize. If persons other than local authorities constructed them, whether for foul drains or foul sewers, one moment's pollution by two premises is enough. If a local authority with sewerful intentions laid them, no pollution is necessary.

From all these tests we may gather the following rule for defining a "sewer" for sewage. A sanitary sewer must receive the sewage of more than one set of premises, and must lead somewhere, save only that if it was originally intended by Nature to be a clean watercourse, it must have been fouled long and much; while if a local authority made it, intending it to be a sewer, it needs no sewage to make it such. Perhaps the authority's road drain is a sanitary sewer, but it is not such for the purpose of getting rid of house sewage.

We have thus defined sewers, but have not yet arrived at our goal, for it is not with all sewers that you can connect under section 21, but only with sewers which have vested in the local authority. Under section 18 of the Public Health Act, 1875, "all existing and future sewers within the district of a local authority," with their appurtenances, "shall vest in and be under the control of such local authority." There are three exceptions, and a fourth by way of proviso. With these excepted conduits, you cannot connect under this 21st section.

Sewers which do not vest. Own Profit.—The first exception is "sewers made by any person for his own profit, or by any company for the profit of the shareholders."

Sanitary Non-Vesting.—First of all we will consider the cases as to sanitary sewers. If I cook my own mutton chop I do this for my own "benefit," but not for my "profit"; but if I hire myself out as a cook, I cook for my own profit. This in homely terms is the general principle; but the matter is not quite so simple, for it was said, "Yes, we agree that while the man who built the house and dug the sewer lived in it (that is, of course, in the house) the sewer would be for his "benefit"; but when he went to reside elsewhere, and let his house at a good rent on

account of its excellent sanitary accommodation, this would be "own profit." There were early actions—Bonella's, and that of the Acton Local Board—in which it was decided that a landowner making a sewer to drain his houses is not making a sewer for his own profit; but in the Acton case other houses not belonging to him had connected free of cost.

In *Ferrand v. Hallas Land Co.*, decided in 1898, matters were taken further, and it was clearly laid down that even though the drains were solely intended for and solely used by the Land Company's houses, yet they were not sewers made for "profit." There seems to have been in that neighbourhood the usual complaint that houses were like musical chairs, with eleven working-class families to ten houses, and an alarming prospect of a bed beneath the hedge (or in the lock-up). Various luminous remarks issued from the Bench: firstly, the Judge said that houses being at a premium good sewerage could not raise the rent. I cannot help thinking, however, that houses are often at a discount, and that among enlightened people there is no demand for death-traps, even at a low rent. Then as to the argument that if a man did not occupy but let his house, this brought the sewer within the exception, the Judge observed that such a doctrine would exclude most sewers from the operation of the Act, for no man is certain of always occupying or even of always possessing his house.

In *Vowles' case*, decided in 1895, the matter was brought still further, for here the owner charged the successive purchasers of his houses, in addition to their purchase money, a special fee for connecting with the sewer he had constructed, and yet it was held not to be within the exception.

On the other hand, where Mr. Luttrell, the owner of part of the town of Minehead, had had the enterprise and enlightenment to do what the powers that were had not done, and had made a general system of sewerage both for his own tenants, and, mark you, also for the inhabitants of the town generally, recouping himself by charging them rates for using it, this was held to be within the exception and to be for his own profit, so that the local authority could not step in and hand the bag round for him.

According to the Judge in *Ferrand's case*, mentioned above, a sewer taken by a man to his sewage farm or manure works will be within the exception.

The burden of proof, as we see from the Acton case, is on the side which asserts "own profit."

Clean Non-Vesting.—Besides these sanitary sewers, there are other sewers—namely, the clean-water sewers; and these, when made by private individuals, are all within the exception. (As a matter of fact they are impliedly excepted from all the sanitary provisions of the Act.) A sewer

for bringing water on to land to irrigate it, according to *Ferrand's case*, or to "irrigate" the cattle, as was decided in *Croysdale v. Sunbury* in 1898, is within the exception. This is the fact also as regards sewers for taking water off land. Thus in *Sykes's case*, decided last year, it was held that surface drains and agricultural drains, and also a drain or sough made by a man to divert flood-water, which came in from a road, so that it should not inundate his quarry, are similarly excepted. Of course, such sewers, if made by the local authority—for instance, to drain their pleasure-park—are sewers, and also belong to them. These, however, not being sanitary sewers, do not vest in them under section 18, for they are beyond the scope of that part of the Act in which the section is found. This is manifest from *Sykes's case*. One cannot therefore drain into them under section 21.

We see, therefore, that sanitary sewers made to drain the owners' houses (as in diagram 8), whether tenants or purchasers pay for using them or not, are not within the exception. Neither are sewers made for the same purpose and used (as in diagram 8) by strangers free of cost. A sewage "spec" like *Luttrell's*, where strangers use (as in diagram 8) and also pay, and sewage farmers' plant are within the exception, and accordingly do not vest in the local authority. We see also that all water sewers are either within the exception or beyond the scope of section 18, and therefore do not vest under it. A local authority's own road drains are beyond the scope of section 21—which allows you to empty your drains—but, curiously enough, are not beyond the scope of section 16 as to compulsory access, as we see from *Durrant v. Branksome*, 1897.

Land Sewers by Local Act.—The next exception is "sewers made and used for the purpose of draining, preserving, or improving land under any local or private Act of Parliament, or for the purpose of irrigating land." In view of the wideness of the previous exception I need say little as to this. I may simply remark that drainage need not be the primary object of the Act in order to come within the exception. Thus, drains made under a railway company's Act do not vest in the local authority.

Land Sewers by Statutes of Sewers.—The third exception comprises the sewers of the Commissioners of Sewers appointed by the Crown. This body was founded by the Statutes of Sewers of Henry VIII. and Elizabeth, and was established to drain land and to preserve it from inundations and from encroachments by river or sea. Its rights are further protected in a saving clause later on in the Act.

Foreign Sewers.—The proviso which forms the fourth exception protects from confiscation the sewers, for instance, of a neighbouring local authority, which, as provided by the Public Health

Act, brings sewers into another district. The proviso also preserves the rights of transferees of sewers under any past or future statutes. We shall see later what rights you have as to foreign sewers.

We have thus whittled away from our conduits all "drains" as defined by the statutes, all conduits of independent highway authorities, also all water sewers as beyond the scope of part 3, and many watercourses as not being sufficiently polluted. We have also weeded out all private sewage speculations, whether of amateur sanitarians or of sewage farmers or sewage merchants, and all water sewers of individuals or companies, particularly the water sewers of statutory bodies, and of Crown Commissioners for the improvement of land. Finally, unless otherwise agreed, we must except all neighbouring authorities' sewers of any kind, and the sewers of certain statutory interlopers. Another exception I may mention, in case it is not considered to come within the above, is that of small roadside ditches, even if belonging to the local authority. Into all other conduits not thus eliminated section 21 gives you the right to empty your drains, on conditions.

Notes to Lecture 1.

(a) A lecture which dealt with building lines was published in the architectural papers about the beginning of February 1900. The references to cases given in the text and notes of this lecture may be useful to the architect's legal adviser. "Authority" throughout this lecture means a district council (urban or rural) or a town or city council, but never a parish or county council. Of course, the advantages which the Public Health Act gives to the drain owner are not always personally enjoyed by the architect; but I treat him as being one with the building owner for the sake of brevity. In perusing this paper the Acts should be referred to. A table of references to all the cases will be published later on.

(b) *Sewage*.—It may be noted that of all sewage the foulest and most noxious is soapy water. *Chambers's Encyclopædia* includes under the term "sewage" the washings of slaughter-houses and roads and organic liquid refuse from some manufactories; but see (L ii), a note in the second part of this lecture. Properly deodorised sewage is not "sewage."

(c) *Architect's responsibility*.—According to Woodward's case, the architect will be responsible to the authority where a provision enforceable under a "penalty" is contravened by his advice, but not where the breach merely gives the authority power to do the required work for his client, the owner, and charge the latter with the "expenses" of doing it. On the other hand, if a penalty were recovered from the client he could not sue the architect; but if he were mulcted in expenses he might sue if the architect had been negligent.

(d) *Does a "drain" need a building?*—According to Fitzgerald (7th edit., 1895, p. 6) the drain must not be merely a drain from land in order to give a right under the Public Health Act (sections 21 and 22) to drain into an authority's sewer. These sections, read in the light of the definition of "drain" and "premises" given in section 4, seem hardly to bear out this statement; but on the authority of Sykes's case we may rule out all *clean* drains

from land as being beyond the scope of the sanitary part of the Act. Therefore the drain must be a foul drain from a building, manure heap, or reservoir for polluted liquid if it is to be emptied into the authority's sewer under these sections. ("Premises" under section 4 includes lands and easements. Its primary meaning is such matters as would be included in the parcels of a conveyance—*e.g.* lands and easements. According to all dictionaries, the word in its popular sense includes vacant land. And see note *h*.) (Still less does a sewer require a building; but only sewers for sewage (*b*) are within our purview.)

(e) *River pollution*.—The Rivers Pollution Prevention Act is not permissive, and no prescription can avail against it. As regards water-courses which were "not mainly used as sewers" (see end of note *g*) before August 1876, it allows no new drains to pour sewage into them. In the case of old drains which poured sewage into such water-courses before August 1876, you would have, and require to have, two defences if you polluted. "First," you could say, "I have taken the 'best available means' of deodorising the sewage, though I admit it is still sewage. Secondly, as the drain is now (in 1901) twenty-five years old, I have gained a prescription of more than twenty years to commit a nuisance. I can therefore defy both the Act of 1876 and the common law as to private nuisance." You would, however, lose your case if this imperfectly deodorised sewage created a public nuisance—*i.e.* a nuisance to passengers on a highway or to more than four houses. But if you have not merely done your best to deodorise, but have succeeded in purifying your sewage, then, although the stream be a clean stream and your drain quite new, you will be free from liability, for your effluent would be pure water, against which there is no law (see Fitzgerald on *The Rivers Pollution Prevention Act*, edit. 1876). The artificiality of the water-course is no defence, for "stream" includes canals, lakes, &c.; but the Rivers Pollution Prevention Act does not punish the polluter of a dry ditch.

(f) *Offensive ditch*.—If the private ditch created a nuisance the person fouling it would be liable. But the authority could not enter on the land to abate the nuisance (*Scarborough v. Scarborough*); an order must be obtained (sections 91 (2), 92-6, 99, and 102, "Entry to inspect").

(g) *House*.—"House," defined in the previous lecture (see note *a*), includes dwelling-house, warehouse, shop, theatre, office, factory, school, and all premises where a caretaker sleeps, but not a building, such as a consecrated church or a cow-house, which for legal or physical reasons is rendered uninhabitable.

(h) A "drain" = "a drain of and used for the drainage of one building only or premises within the same curtilage, and made merely for the purpose of communicating therefrom with a cesspool or other like receptacle for drainage, or with a sewer into which the drainage," &c., &c. (section 4, Public Health Act 1875; the italics are my own).

(i) *Map of sewers*.—The Public Health (Support of Sewers) Act 1883, section 3, incorporates the Water Works Clauses Act 1847, including section 19. By the former Act (section 3, sub-section 1) section 19 of the latter Act is to be read as if for the word "undertakers" was substituted "local authority," and as if "pipes, conduits, or other works" referred, *inter alia*, to sewers (see definition of "sanitary work" in the former Act). On reading section 19 thus modified we find (i) that an authority need not, unless it "uses" them, make a plan of the neighbouring authority's immigrant sewers. The builder, therefore, may find it advisable to examine the map of the neighbouring district. (ii) The map is to be shown to "persons interested"—*i.e.* to owners of lands or roads over which a sewer belonging to or used by the authority who have the map is laid or designed. If the building

owner is a frontager he may be a "person interested," for he may own as far as the centre line of the street which runs parallel with his property, and the sewer may be on his half. Under section 20 of the Public Health Act, if an urban authority do keep a map they must show it to rate-payers. Therefore the building owner should either be a "person interested"—i.e. an owner of soil beneath a sewer present or future—an urban ratepayer, or should find a friend who possesses one of these attributes.

(j) *Bridge of Sighs*.—A subway or a "Bridge of Sighs" between premises divided by a road would give them, I think, both a "ring fence" and "private communication;" but its importance should be duly appraised, for a mere temporary plank would, I think, not have this effect.

(k) *Harvie's case*, 32 *L. T.* 1, where separate occupation also severed. There is a different rule in cases as to building lines (see former lecture and note a); but such cases are irrelevant.

(l) *Marson's case* is not an instance of absence of "ring fence," for the public who used the forecourt were customers, not strangers, and the forecourt was periodically closed, so as to prevent public rights from being acquired. *Lowther Arcade*, on the other hand, though closed at night, was used as a thoroughfare.

(m) See also the *Shoreditch* and other cases. But in *Low v. Staines*, 64 *J. P.* 412, in spite of its size, the paddock at the back of the house was held to be part of the latter for the purposes of the Lands Clauses Act.

(n) *Occupation by almsmen*.—Alms-houses, where rooms are held by freehold for life, may perhaps be considered to be in separate occupations, and therefore severed (see franchise cases and the *Grosvenor case*). *Occupation by College authorities*.—In spite of the remarks in the text, I think that *Whewell's* buildings and the rest of *Trinity College, Cambridge*, should be severed by the intervening public road (see *Shoreditch case*). Here we have uniting factors 3 and 4, but not 1 and 2. In the *Shoreditch case* we had all except 2.

(o) *Occupation by employer*.—*Smith v. Seghill*, 10 *Q.B.* 422 (a rating case). A lodge gate attached to the lodge will cause the lodge to be in the occupation of the master, if the occupant is required to open the gate. So, also, where part of the factory plant, such as the employers' weaving machine, &c., is in the employee's house.

(p) *Meador's case*.—According to this case (1892) the destination must be an authorised destination. Such a doctrine contradicts the law laid down in the "history" and the "legality tests" below, which have ample and more recent authority; and one may humbly expect to see a different decision—at least as regards the influent and effluent pipes—in the next analogous case (see note r). It is clear, however, that whatever the influent and effluent pipes may have been, the cesspool itself was not a sewer (*Croft v. Rickmansworth*; *Sutton v. Norwich*), and, if it vests in the local authority, does so only because the latter have purchased the land and placed it there, and not under section 13. (See also the *Tottenham case*, 78 *L. T.* (N.S.), 470, and note that the sewage systems of several towns end in tanks.)

(q) *Amount of pollution*.—In *R. v. Godmanchester* it was held that four houses could not with their sewage make a sewer of a stream; but then we do not know how much sewage they poured in, or the volume of the stream. For the purpose of making a stream a "sewer" under the Public Health Act two sets of premises are a minimum by

the definition; but, these once obtained, the question becomes, not the number of houses, but the amount of pollution. I apprehend that a water-course under the Rivers Pollution Prevention Act would be considered to have been mainly used as a sewer even though only one house polluted it, provided the pollution were sufficient.

(r) *Legality*.—*V. of St. Leonard*, [1896] 1 *Q.B.* 533; *Kershaw v. Taylor*, [1895] 2 *Q.B.* 473; *Geen v. St. Mary*, [1898] 2 *Q.B.* 1; *L. and N.W.R. Co. v. Runcorn*, [1898] 1 *Ch.* 41. But, *contra*, see *Bateman*, [1837] *Ch. D.* 272.

(s) *Who pays for sewer?*—See *R. v. Tynemouth*, [1896] 2 *Q.B.* 219. The authority usually pays for the sewer; but an urban authority, or rural authority which has obtained urban powers under section 276 from the Local Government Board, may, under section 150, force the frontager of a "new street" to sewer his frontage at his own expense, or, under section 277, might, with the sanction of the Local Government Board, declare a set of premises to be part of a special drainage district, excusing him from the general sewage rate. Also, by adopting the Public Health Act Amendment Act of 1890, section 19, an urban or rural council might make the builder of one or two or more houses, owned by different persons, pay the expenses of repairing that part of the sewer which drains these houses and is on his land, if it is in an insanitary state. (Such a sewer is in the 1890 Act called a "drain." I shall deal with costs of making sewers under the head of "Duties.") The council cannot throw the burden of making sewers on the building owner by by-laws (*R. v. Tynemouth R. C.*, [1896] 2 *Q.B.* 221, 231).

This note is referred to later on under the head of "How to produce a Sewer," when this summary of the four factors that go to make premises one may with advantage be read again.

(t) *Once a sewer, always a sewer*.—That is to say, if it has vested in an authority, and so long as it is used at all. (*Beckenham U.D.C.*, 60 *J. P.* 490; *St. Leonards v. Phelan*, [1896] 1 *Q.B.* 533, 540. But, *contra*, if totally abandoned, *ibid.* p. 538; *Bradford v. Eastbourne*, [1896] 2 *Q.B.* 205, 218; *Rolls v. St. George*, 14 *Ch. D.* 785.)

(u) *Producing a sewer*.—The advantages of this method are threefold. You can, in case of "present double sewage," escape section 21, where the sewer vests in your authority, and section 22, where the sewer vests in the adjacent council. You give either of these councils an excuse for compelling access. You save the expense of a longer drain from the house, for it is the duty of the council to continue the conduit after it has become a sewer, and to provide an outfall (but see note s).

As to escaping section 21, you must perhaps have leave from the persons over whose land the sewerised conduit pours (*Meador's case*) in order to make the conduit pass the "destination test." If this condition is fulfilled you need not fear the council, for before you connected there was no sewer to which orders and regulations could apply. But the third house to connect would come under the section.

As to escaping section 22, you would never have to obey any conditions, whether agreed or awarded or adjudged, for you would have never "caused a drain to communicate" with a sewer. When you made the communication the conduit was a "drain." In the case of section 22 the junction of the sewage of the two sets of premises must be in the neighbouring district. The third house in this case also would find the free door closed.

(To be continued.)



9, CONDUIT STREET, LONDON, W., 8th June 1901.

CHRONICLE.

The late John McKean Brydon, Vice-President.

The unexpected death of Mr. J. M. Brydon occurred on Saturday, the 25th ult., after a short and painful illness. News had reached the Institute only a day or two before that he was seriously indisposed, but one was ill-prepared for the sad announcement which appeared in the *Times* on the day following the Whitsuntide holiday. Mr. Brydon was in his sixty-first year, and had been a Fellow of the Institute since 1881. He had served for several years on the Council, and had just completed his second year as Vice-President. The funeral took place at Highgate, the Institute being represented by the President, numerous members of the Council and General Body, and the Secretary.

THE PRESIDENT, in making the formal announcement to the Meeting last Monday, said that during the last year or so there had been many gloomy announcements to make from that Chair of losses which had befallen the Institute by the death of distinguished and respected members, but he thought there had been none sadder than that which it was his duty to mention that day—viz. the loss of their friend and Vice-President, Mr. John Brydon. When a man died full of years and with his work carried out to completion, one felt that his life had seen a fitting ending; but in the case of Mr. Brydon, and in that of Mr. William Young who died a few months ago, they had made the designs for the largest works they had ever been employed upon, but before they could even lay one stone they had been called away. He would ask that an expression of their sorrowful regret for the loss they had sustained be recorded on the Minutes, and that a letter of sympathy and condolence be forwarded from the Institute to Mrs. Brydon, his widow.

Mr. ASTON WEBB [F.], A.R.A., said he was sure they all felt with the President the gloom and solemnity of the occasion. Death had been very present with them lately. At their last meeting it was Arthur Cates; now it was John McKean Brydon. They might almost use the words of John Bright on a memorable

occasion: "The Angel of Death is present amongst us; you can almost hear the beating of his wings." John Brydon, whom they all knew so well, so keen, so alert, so genial, and so kindly, that it seemed almost impossible, even for those who saw him laid to rest the other day, to realise that he would never sit in his accustomed place on those benches again. He was a man of strong opinions, and a man who did not shrink from expressing them strongly; but he also had the feeling of give-and-take which was necessary to the carrying-on of the work of this life, and he never pressed his opinions beyond what he was entitled to do. As an architect he strenuously advocated breadth and simplicity in architecture, and in his work he endeavoured to carry out those principles, and to a great extent succeeded. He (the speaker) had not the privilege of knowing Mr. Brydon as intimately as some of those present, but he knew that when he first came to London his life was not free from struggle. As a man, sorrow and bereavement had fallen to him perhaps somewhat more than to the average man; and when at last he grasped the prize it was pathetic and almost tragic to think that he himself was snatched away leaving the prize to fall to other hands. It made them exclaim with Burke, "What shadows we are, what shadows we pursue." The present was not the time and he (the speaker) was not the man to give a critical notice of his work, or of Brydon as a man, but it was a time for them to express their great regret and sorrow that they should never see him there any more. It was also fitting and right that we should convey, to those dear to him whom he had left behind, our sincerest sympathy and condolences with them in the great loss which they had sustained, which they his brethren had sustained, and which the Royal Institute, which he had served so long, so faithfully, and so well, had sustained. *Requiescat in pace.*

Mr. JOHN BELCHER [F.], A.R.A., said that the death of Mr. Brydon had come as a great blow to every member of the Institute, not only because they were not acquainted with his illness, and were not aware that he was seriously ill, but because he was one whom they felt they could not afford to lose. He was a most conscientious artist, working always on quiet and safe lines. He hated meretricious ornament, and highly favoured that which was dignified and monumental in their art. In those respects he set a good example to most of them. But especially did he set them a good example in the interest and affection he showed for the Institute, of which he was so staunch a friend. He never lost an opportunity to favour the Institute, and to do what he could to advance its interests. He was also one who assisted greatly the younger members of the profession, both by his interest in their studies, and by his kindly counsel and encourage-

ment. He was, as Mr. Webb had said, a genial companion and a good friend. The members of the Council would long mourn their colleague, who was always so energetic and ready with good and sound advice and practical assistance. There was much more that could be said about his friend Brydon, but their duty that evening was to express their sympathy with his widow and family in their deep sorrow, and the vote which had been moved had his sincerest support.

The vote having been put from the Chair, was passed in silence.

A special memoir of Mr. Brydon is in preparation for this JOURNAL, which owes to him some of its brightest pages, and bears many an evidence of his gifts as an artist, a critic, a speaker, and a writer. One of his latest contributions was the memoir of his friend, Mr. William Young, who shared with him the distinction of being the chosen architect of the great Government buildings at Westminster. Of William Young Mr. Brydon wrote:—"Our profession has lost one of its hardest and most enthusiastic workers, at the moment too when the greatest opportunity of his life was within his grasp. He was, in the highest sense of the word, a self-made man. By his own untiring energy and capacity for work he won for himself a foremost place among the leading architects of the day."* With even greater force, perhaps, do these words apply to the man who wrote them, John McKean Brydon.

THE ANNUAL ELECTIONS.

Scrutineers' Reports.

At the Meeting of Monday, the 3rd inst., the sealed Reports of the Scrutineers appointed to direct the election of the Council, Standing Committees, &c., for the year of office 1901-2 were presented, and the seals having been broken in presence of the Meeting, the Reports were read out by the Secretary, and the candidates reported successful were declared duly elected to the respective offices.

The Council.

The scrutineers of the Council voting lists were Messrs. Hugh Stannus [*F.*] (*Chairman*), Maurice B. Adams [*F.*], A. Burnell Burnell [*F.*], F. de J. Clere [*F.*], Arthur H. Ryan-Tenison [*A.*], and A. Maryon Watson [*A.*]. Their report states that they received 486 papers; that of these they had to reject 10 as informal, and that their examination of the others showed the following results:—

PRESIDENT.—William Emerson [*unopposed*].

VICE-PRESIDENTS.—John Belcher, A.R.A.; the late John McKean Brydon; Thomas Edward Colcutt; John Slater, B.A.Lond. [*unopposed*].

HON. SECRETARY.—Alexander Graham, F.S.A. [*unopposed*].

MEMBERS OF COUNCIL [18].—*Elected*:—Aston Webb,

* JOURNAL, present volume, p. 44.

A.R.A., F.S.A., received 417 votes; Ernest George, 407; Henry Thomas Hare, 372; George Frederick Bodley, A.R.A., 371; John Alfred Gotch, F.S.A. (Kettering), 357; Leonard Stokes, 356; Beresford Pite, 352; Edward William Mountford, 348; Richard Phené Spiers, F.S.A., 343; William Douglas Caröe, M.A., F.S.A., 338; Frank Thomas Baggallay, 337; George Halford Fellowes Prynne, 333; William Milner Fawcett, M.A., F.S.A. (Cambridge), 331; Edward Augustus Gruning, 325; Paul Waterhouse, M.A., 321; Edwin Thomas Hall, 287; George Enoch Grayson (Liverpool), 265; Percival Gordon Smith, 255.

Not elected.—Charles Harrison Townsend, 245 votes; Benjamin Ingelow, 243; George Thomas Hine, 241; Ralph Selden Wornum, 232; Edward Mitchel Gibbs (Sheffield), 213; John William Simpson, 204; Thomas Jeram Bailey, 165.

ASSOCIATE-MEMBERS OF COUNCIL [4].—*Elected*: William Henry Bidlake, M.A. (Birmingham), 361 votes; Robert Shekleton Balfour, 334; James Sivewright Gibson, 283; Henry Vaughan Lanchester, 280.

Not elected.—Arthur Thomas Bolton, 228 votes; John Ernest Newberry, 140; Robert Watson, 118.

REPRESENTATIVES OF ALLIED SOCIETIES [9].—John James Burnet, A.R.S.A. (Glasgow Institute of Architects); Frank Caws (Northern Architectural Association); Charles Henry Channon (York Architectural Society); Arthur Clyne (Aberdeen Society of Architects); Sir Thomas Drew, P.R.H.A. (Royal Institute of the Architects of Ireland); Francis Haslam Oldham (Manchester Society of Architects); Samuel Perkins Pick (Leicester and Leicestershire Society of Architects); Frank William Wills (Bristol Society of Architects); Butler Wilson (Leeds and Yorkshire Architectural Society) [*unopposed*].

REPRESENTATIVE OF THE ARCHITECTURAL ASSOCIATION (LONDON).—William Howard Seth-Smith [*F.*] [*unopposed*].

Auditors.—Walter Hilton Nash [*F.*]; Herbert Arnold Satchell [*A.*] [*unopposed*].

The Four Standing Committees.

The scrutineers of the Standing Committee voting lists—Messrs. Francis Hooper [*F.*], Herbert G. Ibberson [*F.*], Richd. M. Roe [*F.*], E. Arden Minty [*F.*], Edm. J. Bennett [*A.*], C. H. Brodie [*A.*], Arch. C. Dickie [*A.*], and W. Wonnacott [*A.*]—report that the total number of papers delivered to them was 463, that a certain number (indicated below) were rejected for informality, and that the voting was as follows:—

ART COMMITTEE.

Twenty-one papers were invalid, leaving 442 valid.

Fellows (10).—*Elected*: Thomas Edward Colcutt, 373 votes; George Frederick Bodley, A.R.A., F.S.A., 361; Alfred Waterhouse, R.A., LL.D., 350; Henry Thomas Hare, 336; Edward William Mountford, 329; John Macvicar Anderson, F.R.S.E., 310; Arthur Conran Blomfield, M.A., 308; William Douglas Caröe, M.A., F.S.A., 296; George Halford Fellowes Prynne, 282; James Brooks, 255.

Not elected: Henry Heathcote Statham, 217 votes; John William Simpson, 161; William Flockhart, 170.

Associates (6).—*Elected*: Andrew Noble Prentice, 346 votes; Robert Shekleton Balfour, 343; James Sivewright Gibson, 335; Arthur Thomas Bolton, 307; Henry Vaughan Lanchester, 302; William Henry Romaine-Walker, 263.

Not elected: Hubert Springford East, 254 votes; Robert Watson, 203.

LITERATURE COMMITTEE.

Seventeen papers were invalid, leaving 446 valid.

Fellows (10).—*Elected*: William Alfred Pite, 408 votes; Richard Phené Spiers, F.S.A., 396; Paul Waterhouse, M.A., 390; Alexander Graham, F.S.A., 379; John Bilson,

F.S.A., 375; Charles Harrison Townsend, 364; Benjamin Ingelow, 351; Henry Heathcote Statham, 351; George Halford Fellows Prynn, 350; Francis Hooper, 348.

Not elected: John Hebb, 282 votes.

Associates (6).—Elected: Leslie Waterhouse, M.A., 341 votes; Arthur Smyth Flower, M.A., F.S.A., 333; Professor Ravenscroft Elsey Smith, 289; Percy Scott Worthington, M.A., 275; Arthur Maryon Watson, B.A., 272; Andrew Noble Prentice, 236.

Not elected: John Humphreys Jones, B.A., 213 votes; Hubert Christian Corlette, 167; William Adam Forsyth, 148; Edward William Hudson, 129; Thomas Geoffry Lucas, 122.

PRACTICE COMMITTEE.

Fourteen papers were invalid, leaving 449 valid.

Fellows (10).—Elected: Edward Blakeway P'Anson, M.A., 399 votes; Samuel Flint Clarkson, 385; Joseph Douglass Mathews, 381; Edmund Woodthorpe, M.A., 367; Walter Hilton Nash, 358; Thomas Batterbury, 355; George Hubbard, 349; James Osborne Smith, 324; Alexander Henry Kersey, 308; Lewis Solomon, 291.

Not elected: Frederick Ernest Eales, 287 votes; Richard Manleverer Roe, 247.

Associates (6).—Elected: Charles Henry Brodie, 328 votes; Max Clarke, 315; William H. Atkin-Berry, 309; Augustus William Tanner, 301; William Henry White, 296; Herbert Hardwicke Langston, 228.

Not elected: Edwin Richard Hewitt, 220 votes; Edward Greenop, 186; Sydney Perks, 183; Herbert Alexander Pelly, 122.

SCIENCE COMMITTEE.

Sixteen papers were invalid, leaving 447 valid.

Fellows (10).—Elected: Thomas Blashill, 395 votes; Lewis Angell, 378; Herbert Duncan Searles-Wood, 377; Edmund Woodthorpe, M.A., 363; Percival Gordon Smith, 360; William Charles Street, 341; Alfred Saxon Snell, 328; William Edward Riley, 324; Keith Downes Young, 324; Benjamin Tabberer, 318.

Not elected: Frederic Hammond, 277 votes; Lewis Solomon, 273.

Associates (6).—Elected: Max Clarke, 346 votes; Bernard John Dicksee, 339; James Sivewright Gibson, 331; Henry William Burrows, 303; George Pearson, 302; Sydney Benjamin Beale, 283.

Not elected: Arthur Charles Bulmer Booth, 267 votes; Herbert Arnold Satchell, 267.

A vote of thanks to the Scrutineers for their labours in connection with the Elections was passed by acclamation.

It should be noted that the elections above recorded were the first held under the By-laws as altered at the Meeting held for the purpose in March last year, and sanctioned by the Privy Council two months later.* The Associate-Members of Council now number *four* instead of *two* as formerly. It is not now necessary that candidates for Associate-Membership of the Council should have been in independent practice for at least three years; any duly nominated Associate is eligible to serve if elected. Another change was the omission from the balloting papers of the asterisk which under the old By-law was prefixed to names of members of the existing Council and Standing Committees.

The National Memorial to Queen Victoria.

At the General Meeting last Monday, in answer to an inquiry of Mr. Wm. Woodward [A.] as to whether any reply had been received to the Resolution sent to Lord Esher with reference to the National Memorial to Queen Victoria, the Secretary said that Lord Esher had formally acknowledged receipt of the Resolution, and stated that it would be laid before the Executive Committee when they next met. The President, in reply to a further question, said that the Committee had not met since the Resolution was forwarded. Shortly after it was sent, however, he had seen Lord Esher and been informed by him that the Committee would have to meet again shortly, and the Resolution would be laid before them, but his Lordship was unable to give the date. Some time after, as he (the President) was leaving town, he had another interview with Lord Esher, and inquired when the meeting was likely to take place, so that he might arrange his return in time to attend it. Lord Esher replied that the date had not yet been fixed, but that he (the President) would probably have ten days' notice of it.

Special Election to Fellowship.

The Council, at their meeting on the 20th ult., elected the following gentleman to the Fellowship of the Royal Institute under the proviso to By-law 9, viz.:—

GEORGE THOMAS, of Queen's Chambers, Cardiff, President of the Cardiff, South Wales, and Monmouthshire Architects' Society, allied to the Royal Institute.

Presentation to Sir Thomas Drew.

The members of the Royal Institute of the Architects of Ireland recently entertained their President, Sir Thomas Drew, R.H.A. [F.], at a dinner at the Central Hotel, Dublin, and presented him with a gilt silver cup and cover bearing the following inscription:—"From the Members of the Royal Institute of the Architects of Ireland to their President, Sir Thomas Drew, as a mark of affectionate esteem on his receiving the honour of Knighthood, Anno Domini 1900." The cup is a copy of one made in the reign of Charles II., the original being in the possession of the Grocers' Company, and known as the "John Saunders Cup," after the donor. The form and outline of the cup are of great beauty, the bowl being supported on a bold baluster stem resting on a well-proportioned foot, the whole being chased in bold *repoussé* work, and richly gilt. In the inside of the cup is a crown piece of the date of Sir Thomas's knighthood; in the foot a similar piece showing the effigy of Her late Majesty Queen Victoria. The cup also embodies a "Master Apostle's" spoon, of the sixteenth century, presented to Sir Thomas at his birth; and set in the face of the cup is a medal of the

* JOURNAL, Vol. VII. 198, 208, 409.

Institute of the Architects of Ireland, won by Sir Thomas in his student days.

The late Ebenezer Gregg [F.].

The following particulars of the career of the late Mr. Gregg have been kindly supplied by his son, Mr. Theodore Gregg, *Student R.I.B.A.* :—

Leaving school at the early age of thirteen, Ebenezer Gregg entered the office of the late Mr. Sabine, architect, of Old Broad Street, where, before he attained the age of seventeen, he was appointed manager, which post he retained until 1868, when he commenced practice at 1A St. Helen's Place. He quickly established a large and influential connection, and was elected a Fellow of the Royal Institute of British Architects in 1870. At the time of his death he had been for many years an Examiner in the "Professional Practice" and "Specifications" subjects of the Institute Examinations. While his practice was chiefly of a domestic character, he was an architect of wide scope. Among his principal works may be mentioned: Dr. Barnardo's Village Home at Ilford; officers' quarters, ice-house, and offices of the Royal Mail Steam Packet Company, both at London and Southampton; Moody and Sankey's temporary mission-hall, to seat 10,000, erected in six weeks; the Banks of New Zealand, Adelaide, and New South Wales, and the premises 71 and 72 Piccadilly, 141 and 142 Fenchurch Street, and 24 Austin Friars. For many years he had acted as surveyor to Jesus College, Cambridge. He was London Architect for the Exploration Company's building in Johannesburg. His death at the age of sixty-eight will be deeply regretted, especially by students, for whom he always had a helping hand.

LEGAL.

Architects' Fees.

WEST V. BARCLAY.

This was an action by an architect to recover £295, the balance of fees alleged to be due to him from the defendant. The case was heard by Mr. Justice Kennedy, on 14th May, without a jury, and reported in *The Times* of the 15th.

The plaintiff, an architect practising in Maddon Street, was employed by the defendant to carry out certain improvements at Gaddesby Hall, in Leicestershire. These improvements had cost the sum of £14,349, and the question to be decided was what was a fair remuneration to be paid to the architect in the circumstances of the case. The dispute was whether the plaintiff was to be limited to the ordinary 5 per cent. upon the total usually charged, or whether he was entitled to an extra 5 per cent. The plaintiff's claim was that he was entitled to 10 per cent., on the ground that he had an agreement with the defendant by which he was to keep and pass the accounts, and to act as builder and contractor as well as architect, and the value of these additional services he put at 5 per cent. The defendant admitted that there was such an agreement, but alleged that 5 per cent. was sufficient to cover the plaintiff's services in every respect.

Two architects of long standing gave evidence for the defendant that the plaintiff's services would be fairly remunerated at 5 per cent. on the total outlay.

Mr. Justice Kennedy, in giving judgment, said that the question to be decided was the fair amount of remuneration that should be paid to the plaintiff, and pointed out the undesirability of leaving large business relations upon an unsettled basis. Although he thought that the plaintiff's claim for 10 per cent. on the whole amount was clearly untenable, yet he considered that the plaintiff had done more than an architect would have done under the 5 per cent. scale, and that he was entitled to something beyond that. The learned Judge finally held the plaintiff to be entitled to remuneration at the rate of 7½ per cent. on the amount after certain items had been deducted; and as the result of the state of the accounts between the parties, he gave judgment for the defendant, with costs.

MINUTES. XIV.

At the Fourteenth General Meeting (Business) of the Session 1900-1901, held Monday, 3rd June 1901, at 8 p.m., the President, Mr. Wm. Emerson, in the Chair, with 14 Fellows (including 11 members of the Council) and 9 Associates (including 1 member of the Council), the Minutes of the Meeting held 20th May 1901 [p. 357 ante] were taken as read and signed as correct.

The death of Mr. John McKean Brydon, *Vice-President*, having been formally announced, feeling references thereto were made by the President and by Messrs. Aston Webb, A.R.A., and John Belcher, A.R.A. Whereupon, on the motion of the President, it was

RESOLVED, that the Institute desires to express its profound sorrow at the untimely demise of its most esteemed and distinguished Vice-President, Mr. John McKean Brydon, and at the loss the Institute and Architecture have sustained thereby; and that a message of the Institute's sympathy and condolence with them in their bereavement be forwarded to his widow and family.

The decease was also announced of William Jeffrey Hopkins, of Worcester, *Fellow*, elected 1861; and the Conde de San Juanuario, President of the Royal Association of Portuguese Architects, *Hon. Corresponding Member*, Lisbon.

The Secretary having read the reports of the Scrutineers appointed to direct the election of the Council and Standing Committees for the year of office 1901-2, the candidates reported successful were thereupon declared to be duly elected to the respective offices.

On the motion of the President, a vote of thanks to the Scrutineers was passed by acclamation.

The following candidates for membership were elected by show of hands under By-law 9, viz.:—

As FELLOWS (4).

JOSEPH COMPTON HALL.

HARRY BELL MEASURES.

ELLIS HERBERT PRITCHETT, F.S.I. (Swindon, Wilts).

NATHANIEL YOUNG ARMSTRONG WALES (Dunedin, New Zealand).

As ASSOCIATE.

JAMES ANDREW MINTY [*Qualified 1885*].

As HON. CORR. MEMBER.

SAINTE-MARIE PERRIN (Lyons).

The Secretary, in reply to Mr. Wm. Woodward [A.], stated that Lord Esher, in acknowledging the Resolution sent to him with reference to the Queen Victoria Memorial, had stated that the Resolution would be laid before the Executive Committee at their next meeting. The President, in reply to a further question, stated that, as far as he was aware, the Executive Committee of the Memorial Scheme had not as yet fixed a date for the meeting.

The proceedings then closed, and the meeting separated at 8.45 p.m.

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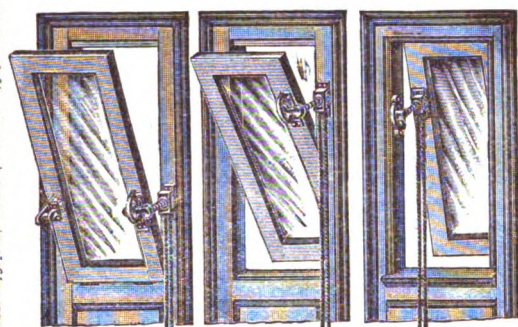
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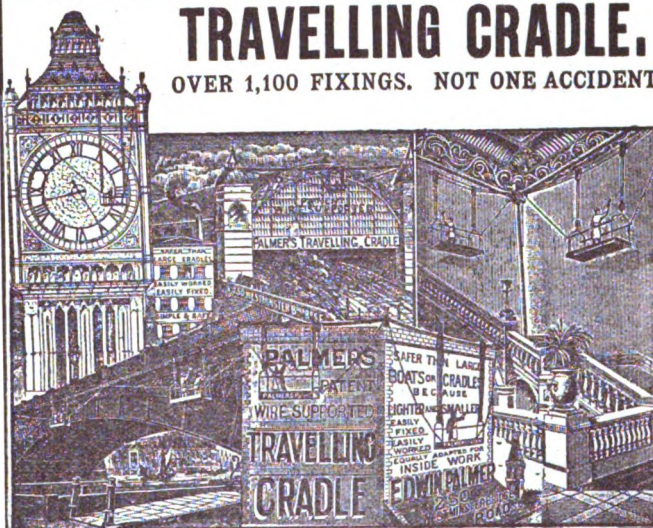
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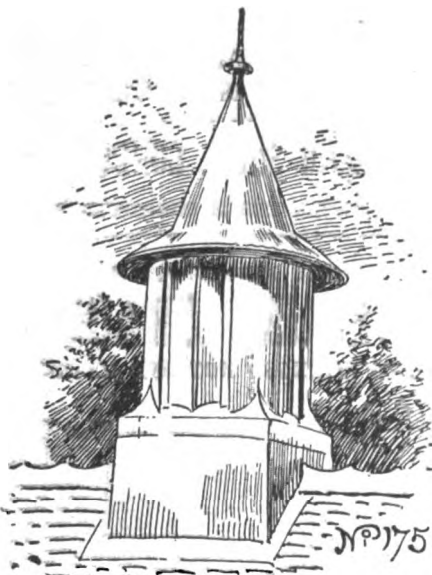
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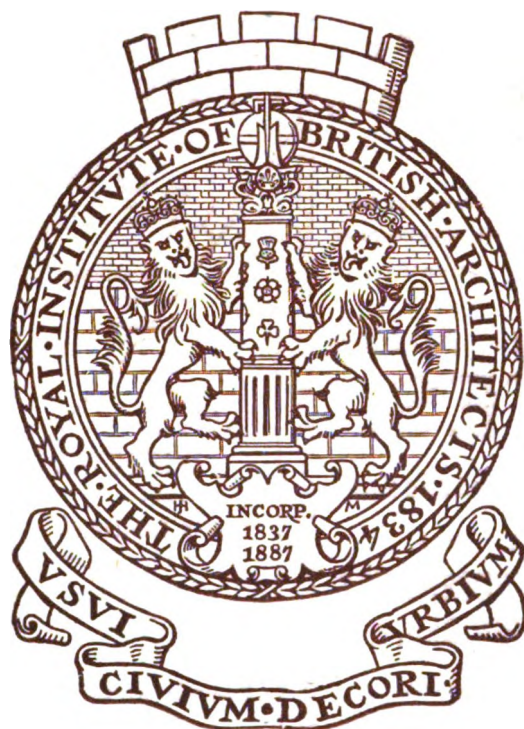
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OF

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS



DATES OF PUBLICATION IN 1900-1901

Nov. 10, 24; Dec. 8, 22; Jan. 12, 26; Feb. 9, 23; Mar. 9, 23; Apr. 6, 27; May 11, 26; June 8, 22; July 27;
Aug. 31; Sept. 28; Oct. 12. *Quarterly Parts:* Jan. 16, Mar. 27, June 12, Oct. 16

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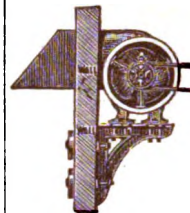
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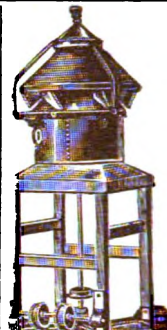
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EDUCATION IN BUILDING. By Professor W. R. LETHABY.

Read before the Royal Institute of British Architects, Monday, 17th June 1901.

I WANT my title to suggest something of what we usually mean by architecture, and more, the whole range of activities associated in the art of building. Our current use of the word Architecture is, I must say, likely to be very ambiguous and betraying to the user: it means anything and nothing, according to the verbal needs of the moment. It is Architecture, "the Queen of the Arts," the great drama of men's work, when building, sculpture, and painting are associated together for noble purpose. It means a yearly output of somewhat unreal drawings which are solemnly written about every year under the heading "Architecture at the Royal Academy." It means the current work of a body of professional men called by ourselves architects, all nice and good men, but not necessarily very masterly. Attempts are frequently made to give the word a definition, but it is essentially one of the class of words that has suffered by shifting its meaning, and decay; it is almost one of the words which folklorists might treat of as a myth-making word. There is, of course, a well-known tendency to take comfort in grandiloquent words—the comfort that the lady had in hearing the sermon which contained the "blessed word Mesopotamia"; the ease of conscience provided by another blessed word, "science"—for the man who skins live rabbits is a case in point; and the words civilisation and progress are equally valuable, and "liberty, what crimes have been committed in its name!"

The word "architect" is very infrequently found in the Middle Ages, and then only as a loan word from the Latin, meaning "Master" in building craft, master-mason, or master-carpenter. In the best authenticated instance known to me of the middle of the fourteenth century, it is a master-carpenter who is called architect; Duncange cites the case of a smith.

The use of the word architecture is just as infrequent: it is used in Higden's *Polychronicon* of the maze or Rosamond's Bower at Woodstock. The words in use for architecture were carpentry, masonry, the art of masonry, mason-craft, but above all *work*. As each new effort was made at castle or cathedral, it became "the work." Wills for centuries bequeathed sums to the old or new work of St. Paul's, the work of London Bridge. The great royal palace of Paris obtained its name L'Ouvre in this way, I believe. An extract in Godefroi's *Dictionary of Ancient French* tells how Charles V., showing off his proud new castle, took his visitors to see the masonage.

Everything is known in France and Germany of the manner of production of their mediæval buildings. We here in England even know that Reims and Amiens and the Sainte-Chapelle were the work of men who called themselves masons. We know the wages they received while they worked, and we can visit their tombs. But there is a curious reserve here

in England about the "architects" of our English cathedrals, and no general attempt has been made to make known the facts as to *our* Pisanos and Arnolfos, *our* Luzarches and Montereaus, *our* Steinbachs. Although the facts lie ready at hand for any investigators, vague theories still hold the field. We go on repeating that it is unknown who built the wonders of mediæval art, or that they were the work of monks, or of travelling freemasons, or of a cosmati guild, or they were designed by clerks like Elyas of Dereham, Edward of Westminster, or William of Wykeham.

The main facts in regard to England are roughly these. Carpenters, masons, smiths, glaziers, &c., existed in separate or general crafts. In the twelfth century and earlier carpenters were usually spoken of before masons, but this order tends, I think, to be reversed in the thirteenth century. These crafts organised the education of the body as a whole, especially seeing to the apprenticeship, which, while placing a youth with a given master, did it under the sanction of the guild in general and even the community. Practically, in London to be entered as an apprentice was to be apprenticed to city life; freedom of the craft and freedom of citizenship were taken up together, and the mason's or carpenter's boy passing through his seven years' course satisfactorily was received into his guild as a master. Master was a definite degree in craftsmanship, granted exactly like Mastership at the University to apprentices in letters. Indeed, Mr. Rashdall's interesting book on the Universities shows that the Colleges were practically guilds of teachers and learners organised from within on the craft-guild system. This was the great fact of the Middle Ages—the country was subject to the castles and the barons, but the towns organised themselves on a craft-guild basis. At the end of the thirteenth century, in Italy, in Belgium, and to some degree in England, there was a great struggle between the two. Just what the *Arti* were in Florence, and the Guilds in Bruges, so were the organised crafts in London. Industry then was organised by groups and faculties on what we may call a collegiate pattern: a master mason or master baker stood with the master of letters or of physic—his furred robe, and, I think, distinct cap, marked his mastership in his craft, exactly as gown and hood did that of the clerk or the physician. Our word Mr. to this day does not mean employer, but graduate of guild; however, the two meanings came together, as only a master might be an employer. The real explanation of mediæval art is to be found in the fact that craft industry through its organised guilds claimed and won an honourable place in life. The craftsman prided himself on his city, his guild, his shop, and his tools, as the knight prided himself on his order, his castle, and his sword. The workmen even set themselves to gain grants of arms for their guilds, and had these arms engraved on their own tombs. We can hardly realise, any of us, the airs the craftsman of London gave himself: he was part owner of the city, a city which had an undercurrent ideal to make itself a free republic on the Italian model. He would have no lord's man in his guilds, and his instinct set him against all handling of goods for profit and brokerage.

If to-day we want to build a shed we call in a carpenter, if we want a garden wall we employ a mason; so of old the employer obtained the services of a master in the chief craft involved in any given work. Carpenters, I think, tended to lead in houses, masons in churches.

The employer had of course a considerable say in the matter, and some abbots and barons doubtless very closely laid down the lines of their abbeys and castles: there seems every probability that Richard I. schemed Chateau Gaillard. In works of great importance like a cathedral or a royal work, an agent might be appointed to represent the employer as keeper or co-keeper of the works; such was Wykeham at Windsor. When such a work or a cathedral was going forward a resident master mason or carpenter was employed as architect to do the work. Designing was merely contrivance, the doing of work in an

ordinary way, just like cooking. The title Abbey Mason at Westminster continued till the nineteenth century, when it was changed to Clerk of Works. It is quite possible that there has been an unbroken succession of masons from the time when Henry III. began his work.

Royal establishments were organised on a self-contained basis, and the chiefs of departments were the royal officers appointed by patent; as to-day we have the king's physician, so in old days there was the king's baker, the king's tailor, the king's mason, the king's carpenter, and the king's smith. Pierre de Montereau was king's mason to St. Louis, and as such built the Sainte-Chapelle.

I speak of normal conditions; of course, cases might be found where some mason recognised as a great master could not be attracted to a new work, but would advise by consultation and by means of rough patterns, while the resident mason would work under his advice. It is often implied that there must have been some co-ordinating authority, or the carpenter would have put the roof upside down; but the reply to this is that the carpenter did not wish to put the roof upside down, and that the employer would have dismissed him if he had. Moreover, the chief master employed, like an officer to-day, had a general consulting leadership. "I thought instead of vaulting this, sir," the mason would say, "we'd get Bob to put in couples"—that was how the old work was done; there was no art nonsense about when work was *The Work*. Hence of course comes the vital interest of old builded work: it was a true evolution, and as natural as a honey-comb or a bird's-nest. The thought was close to the act; design was no exercise, no application of a theory—it was just doing work "as it ought to be done according to the craft of masonry."

In France, I have said, everything is known of their great artists. In the standard book on the national architects we can trace the development of the master masons from such early men as Pierre de Corby and Libergier at Reims, to Jean Texier of Chartres and the great Martin Cambiche, and still later to men like Philibert de l'Orme. This Texier or Jehan de Beauce wrote an inscription on his tower, making it say, "I was of wood and lead, but the Chapter ordered my remaking in stone by *Jehan de Beauce, Mason*, who did it; God pardon him and his employers," 1506. Then on high, blessing the great corn-plain, this mason set a colossal statue of Christ signed by his own name, and doubtless the work of his own hand.

A delightful story is told of the rebuilding of Nantes Cathedral early in the sixteenth century. There was a consultation, and one old master mason turned up riding a rough pony, his legs bound round with hay-rope, and gave it as his opinion that the work should be after the manner of the country, and that he was the man to do it. Even in the seventeenth century Thevet put the portrait of one mason amongst his collection of the great men of France. And at Reims to-day Master Hugh, who built St. Nicaise, is celebrated in the name Rue Libergier. It is a disgrace to our scholarship and interest in our own things that not one name of an old English master painter, sculptor, goldsmith, glass painter, or mason is to be found in the vast new *Dictionary of National Biography*. Enormous masses of fabric rolls have hardly even been looked over; certainly few have made any critical use of them since the death of Professor Willis, but they preserve a record of our national arts and artists.

The Rolls of Westminster have especially interested me, because they at once deal with our greatest work of art, and, as the Abbey was a royal building, give the names of the king's masons, carpenters, sculptors, painters, and smiths. I have prepared an account of the building of Westminster Abbey from these and published sources, which time and strength have not so far permitted me to publish; perhaps you will allow me to glance at some of the results without any apparatus of reference.

I find the term master mason in general use in the twelfth century; it implies the existence at that time of an organised guild which defined what a master was.

In 1244 William de Haverhill, the king's treasurer, and Edward of Westminster were keepers for the new works at Westminster Abbey. In this year there was a mandate from the king that the Sheriff of York should go and see how York Castle might be fortified, along with Simon the carpenter and Henry the mason, "whom the king sends with other experienced persons." Now the king's carpenter in charge of the works at Windsor in this same year was a Master Simon. Henry the mason may have been associated with him there, he almost certainly became the first master—the architect—of Westminster Abbey, the actual work of which began on July the 6th, 1245. In this same year the Constable of the Tower was ordered to deliver materials to the "master of the works" at Westminster and to Edward. This master of the works mentioned with Edward must be the master mason, and in 1246 we find that Master Henry, Cementarius, acquired two houses in Westminster. An account which has never been printed for the work in 1249, headed "Receipts for the fabric of the Church of St. Peter, Westminster, XXXIII year of King Henry, fourth year from the commencement of the Works," names Sir Edward the Clerk and Magister Henry, Cementarius, together as keepers of the work. Certainly they represented severally the finances and the art of masonry: this dual control we shall find was customary.

In the same account Master Henry answers for the receipt of £60, and Master Albericus received £45 for task work (that is, piecework) on the Cloister. In an account of the next year it appears that Master Alexander received £106 for timber; and from the frequency with which he is mentioned there cannot be a doubt that he was the architect-carpenter of the first work, working with Master Henry the mason.

In 1250 the King commanded that 600 or 800 men should work at the church. And the next year a mandate was addressed to "Henry, master of the works," to expedite the marble work. In 1253 the roof was being timbered, and Master Henry's name occurs on a roll of this year. Alberic is also mentioned in this year, so that we may conclude he had wrought at the church from its foundation.

Master Henry was to be succeeded by John of Gloucester. In 1254 he is rewarded for his services to the king at Gloucester, Woodstock, and Westminster, and in the same year the King concedes to Master John of Gloucester his mason all tolls for life. That he was in charge of the Westminster works at this time is shown by another mandate regarding it addressed to John the king's mason. Although we know much more of Master John and of his successor than we do of Master Henry, the character of the work had been definitely laid by the first master in the first ten years, and much had been completed, and we must call Master Henry the Mason the architect of the church.

In 1255 John of Gloucester, mason, lent some freestone from the Abbey stores to the Dean of St. Martin's-le-Grand. A mandate as to timber was addressed to Edward of Westminster (the clerk) and Master John of Gloucester, Cementarius Regis, who was also ordered to see to some defects at the Tower of London. Moreover, five casks of wine were to be returned to him which the king took at Oxford—a fascinating glimpse this of the king drinking the mason's wine: we have seen that John had been engaged at Woodstock.

In 1256 it was ordered that the works should be overlooked and expedited by John the king's mason and Alexander the king's carpenter. The rolls of this time show that John and Alexander received furred robes of office twice a year. In the same year the same mason and carpenter bought marble in Purbeck, and are called keepers of the work.

In 1258 the remainder of the tiles in the Chapter House is mentioned, and this is very interesting as dating those beautiful works so early. The same year the superior and sacrist

of the church are commanded to take down the old church as far as the "vestry by the king's seat," so that it may be rebuilt as the work begun requires. This can only refer to the bays west of the crossing, and is especially interesting as confirming Mr. Micklethwaite as to the date of this portion and as giving us the part we may especially assign to John of Gloucester.

The king would, of course, consult his official mason and carpenter, who at this time must have had easier access to him than almost anyone, on most of the royal works in the country. In 1256 the gateway at Guildford Castle, which still stands in Quarry Street, was wrought "by the view and counsel of Master John of Gloucester our mason and Master Alexander our carpenter"—an ideal firm of architects. About the same time the chapel at Woodstock was paved "by the advice of Master John of Gloucester." In 1260 the wages of the mason and carpenter were doubled when travelling to make provision for the church. John of Gloucester's premises at Westminster, consisting of "a house and curtilage," are mentioned in 1256, and in 1258 the king rewarded him with a gift of houses. His wife was Alice, his son was Edward. In 1260 the great mason died: he evidently left a good memory, as his son is called "Edward, son of John the Mason," in 1266.

Master Robert of Beverley, who succeeded John as the third master of Henry the Third's work at Westminster, was evidently as great a man as his predecessor. His name occurs amongst the list of masons working at the church in the roll for 1259. In a printed Issue Roll of this date particulars are set out of several "petty works" at the palace, like cutting away for altering the king's chimney. Robert of Beverley appears here as receiving 3s. a week wages, while ordinary cutters and bedders were paid 2s. 2d. He seems to have been associated with John the Mason before John's death, for a mandate of about 1259 is addressed to John of Gloucester, Edward of Westminster, and Robert of Beverley, "our masons and wardens of our works." After the death of John there was probably an interruption in the works, for the king was passing through a time of great stress. In 1263 Master Robert of Beverley, the king's mason, and Master Odo, the king's carpenter, were engaged in repairing the palace after a fire, but there is no mention of works at the church till 1267, when what the king himself used to call "the late unhappy troubles" were nearing settlement.

About this time John of St. Albans, the king's sculptor, is mentioned: in him we probably have the artist who wrought the exquisite Annunciation of the Chapter House and the censuring angels of the transepts.

A roll of accounts of this year opens with the statement that it was guaranteed by Master Robert de Beverley, mason, and Brother Ralph the convert (evidently some Jew clerk), who had been put in place of Alexander the Carpenter and John of Spalding (also a clerk, most probably), by the king's writ directed to Adam de Stretton, warden of the said works.

This is the last mention I have found of Alexander. In 1260, Master Alexander the Carpenter is mentioned in connection with property at Knightsbridge, where he may have had his yard. Other accounts from 1269 to 1272 mention Robert the Mason: one of them is made up to November, before the king was buried, by Master Robert de Beverley, mason, and by view of Adam de Stretton, clerk of the exchequer. This account includes some glazing and paving, and as the church was dedicated in 1269, and there are no further accounts of the early series, we must suppose that it was then practically complete to the entry of the Quire, half way down the west limb.

Robert was employed in erecting the stage for the coronation of Edward I., into whose service he passed. The Issue Roll notes a payment to Master Robert of Beverley, the king's mason, of 6d. a day, which he was to receive for life by command of Henry III.

Edward's great work was the completion of the Tower of London, and in 1274 Robert was keeper of works at the Tower. From a deed of the next year we gather that his wife's

name was Cecilia. In 1276 he was paid as keeper of the king's works for materials for the royal mews at Charing.

In January 1278 the king issued a mandamus for an inquisition "before Giles de Audenard and Master Robert de Beverley, the king's mason, and the aldermen of the City," as to whether any damage would arise if a part of the City Wall near Ludgate was pulled down and a new strong wall was built by Fleet Ditch. This was done to provide room for the Blackfriars Church, and it is probable that, as the king and queen were chief benefactors to this church, Robert, the most famous master of his time, may have appeared on the board as architect to the friary, and the beautiful fragment found and destroyed last year may have been wrought under his direction.

About this time the records show an annual expenditure of one and two thousand marks a year at the Tower. In 1278 the accounts of the king's clerk, Giles de Audenard, were audited by the view and testimony of Master Robert de Beverley and Brother John of St. Thomas of Acre, masters of the king's works at the Tower, Westminster, and the Mews. In 1279 Master Robert was still keeper of the king's works. Robert the Mason was evidently a great favourite of Edward I., who granted him 12*d.* a day when staying in London and 16*d.* when journeying. On another occasion the king sent him a tun of wine as a gift. Robert was succeeded by Richard Crundale as king's mason. Extensive works at the Palace in 1288 were under his charge, and after the death of Queen Alienor he built her tomb in the Abbey and also Charing Cross. Richard died in 1294 before the Cross was finished, and it was carried on by his brother Roger.

The second Alienor Cross in London was the work of Master Michael of Canterbury, king's mason, who also entered on the work at St. Stephen's Chapel in 1292.

At this same time Richard Witham was working on the crosses, and in 1307 Master Richard Witham, mason, was assigned to direct the works at the king's palace and the Tower at wages of 7*s.* a week. In 1322 we meet with the name of Master Walter of Canterbury as king's mason at the palace and Tower: he was assisted and succeeded by Master Thomas of Canterbury, king's mason and master of works, St. Stephen's Chapel. In 1326 a William de Ramsey was working as a mason on the royal works. He was to become the next great London master. He built the beautiful octagonal Chapter House of St. Paul's, begun in 1332, and in 1338 William de Ramsey, king's mason, was appointed "chief mason at the Tower and chief surveyor of all the king's works." In 1339 St. Stephen's Chapel was under the ordination of William de Ramsey, master mason to the king: he is probably the William de Ramsey who in 1347 represented Aldersgate Ward on the Common Council of London. In 1348 William de Ramsey was still master of masons' work at the King's Chapel.

I have here made a summary abstract of my notes in regard to the king's masons engaged on Westminster works for a century and up to the time of the Black Death. After this time I will only give a list of names carrying us on to the building of Henry VII.'s Chapel and the break-up of the old indigenous art. Some day I shall hope to publish a fuller account of the building of the Abbey Church, the king's masons, and mediæval art in London. The names in sequence after 1350 are John Box, Thomas of Gloucester, Henry Yevele, a very famous mason, William Colchester, Thomas Mapilton, Thirsk, William Turnor, Robert Virtue, Robert Jenins, and John Lebons. After the great change, the office of king's mason was carried on by such men as Nicholas Stone, and as a sinecure office lingered on to the eighteenth century.

In seeking for collateral evidence I have gone over what is published on half a dozen cathedrals, and I have no doubt that in a few years their several parts will be assigned to the several masters who built them, with great approach to certainty.

As the story is for mediæval art, so very similar (evidence makes known to us in several building accounts) were Greek building customs.

The sculptor and the mason seem to have been interchangeable, and the architect was a directing foreman receiving double the wages of his workmen. The system which led up to the great outburst of the Periclean age seems to have been that by which a number of little masters employed each a few men in producing tombs and such like, and in working at a temple as occasion offered. In Persia and India, in Constantinople and Italy, the method was practically the same: everywhere the art of building was developed by the continuous experiments of practical masons and carpenters.

It is impossible to bring back this state of things—it may be that it is not even a desirable state of things—but it is necessary to recognise that this evolution of masterly building is what we mean by the words Ancient Architecture.

Men in society are always developing something; we cannot escape it. On the basis of the good sound building customs of the masons, the drawing masters of the Renaissance developed the scholarly archæology of Roman forms, then of Greek forms. Pugin and his followers later developed the simulation of Gothic forms. Then as we got further and further away from building there was an enthusiastic evolution of perspective drawing, and an eminent man gave as his formula of salvation the words "Sketch, sketch, sketch." We have even had quite recently an evolution of "architectural printing" as it is called, and these last two, together with the growth of a vast number of patent processes in building and increased complexity in the professional side of an architect's work, seem to be the most marked phenomena of what we call Modern Architecture. The result is, as virility and reality go out of buildings, they are more and more slimed over with a garbage of diseased ornamentation, and more and more break out into a fatty luxury. If a name be required for all this I would suggest the "Syndicate Style."

In the study of past art which has been so minutely made by antiquaries it was necessary that emphasis should be laid on the differentia of the several phases as they succeed one another. These characteristics, mannerisms, and limitations were then called styles; but in a far larger way there has only been one style of architecture from the foundation of the first hut for the living and the heaping of the first cairn over the dead. This has been the art of experiment, the art of reasoning on given data, the art of impressing on work the evidence of thought, care, mastery, nobility of purpose; and these things are ever the measure of the worth of any so-called style, and ever will be. They are the measure of the value of our work to-day.

Now considering the future and the present in the light of the past—what is there left for us to do? Shall we aim at reviving the forms of some yet untouched style—the styles of Mycenæ and of Mexico, for instance? Or shall we urge the return to some position which we might call safe and sure, such as copying the methods and mannerisms of Wren? A moment's consideration will show that we can do none of these things. A man here and there might take up such a lost cause to his own satisfaction, but it is foredoomed to sterility; the attempt can only be made by an artistic ostrich who *won't* consider the essential conditions of the problem. It used to be so ingrained into men that architecture was copying of curious shapes for which they could give no rational account that Keepe, who published an account of the Abbey in 1680, says it was built *in imitation* of the Gothic manner of building. But we are past that now, and to attempt to turn back to a system of copying we need faith in a revealed style as Palladio had: "Verily," he says, "it is a discommendable thing that we, who have a true faith, should build in any other than the true antique way." It cannot be! What (in New Testament phrase) we are "shut up to" is to turn to a study of the art of building, in the practical work of to-day, in scientific weighing and testing, in observing the

stored experience of the past. Archæology is a very amusing study, but in its present form it is only a branch of history.

Proportion.—Nobody knows anything more about this than that work done with a large reasonableness and fitted exactly to its purpose looks well: nothing is better proportioned than a North-Western engine, to its driver; or a piece of good plumbing, to a plumber.

Taste and Principles in Design.—No two are agreed on these: one eminent modern architect used to thank God publicly that he had never used an iron beam; another eminent architect used to propound that modern architecture would be born of iron and glass.

Beauty—that subtle and elusive essence which speaks to our spirits through man, nature, and man's work—no general reasoning can be based on it, save so far as a man may try to explain what moves and touches him. In art it is the evidence of a balance of qualities put into man's work parallel to purity, nobility, love, skill, courage, in other phases of his life. Work certainly is a serious part of life: beauty is the index of its quality; beauty is the smile of energy. It is work, the *effort* we have to teach; not the smile, that must come and will come of itself under healthy conditions. Again I say, we are "shut up" to the study of building: nothing healthily new, or truly wise and beautiful, can spring in architecture save from this groundwork. It is sometimes said that we know too much. If we were only ignorant there would be hope; but instead of this blankness of ignorance I think it would be better to have a fulness of knowledge which deliberately went its own way.

• *How far should this study of building go?* The whole way; or a first step; all is good. To give up all and carry the hod, that would be the part of the saint in architecture: for no style can ever be fine in the highest sense which is not alive and intelligent right down through. The Gothic abbeys were built with Gothic mortar and with Gothic hammer strokes. But the least way will help—our mere aspect toward an old building, interest in the bedding, the stones of it, and in the way the eaves finish at the gables; or again, a little more stringent criticism of our paper designs from the point of view of reasonableness; the sacrifice of some vain and vapid ornament; all these are so far good.

How can this study of building be done? In any way and every way. By spending more time at work and less in the office: this especially can be done even now, and profitably, in the middle period, when one is setting up in practice.

Some friends of mine, to their great pleasure and pride, have acted in this way as resident architects, and, assisted by a foreman, have seen work through from top to bottom. Digging fresh earth with the scent of new cut wood in the air, cutting about in carts, interviewing sawyers, and watching the cement set, is certainly more healthy and romantic than drawing in an office. We might vary Stephenson's dictum on boats, and ask, "Who would work in an office when he can fool about on a building." We may learn much about building by mixing with and questioning the men, who still hand on amongst themselves ancient traditions. One man will have seen stone axed in Gloucestershire when he was a boy; another will know how to lay pan-tiles in hay; a plasterer will recommend washing his finished ceiling with two coats of skimmed milk, or putting tallow in whitewash to make it bind; another, when you are troubled by hearth-stones cracking, will remember that they used to bed them in fireclay; another knows exactly how an old brick oven was built, or a water tank 15 feet in diameter domed without centering. We are living through a period of quick change in these things, and probably the most valuable work that could be done would be to gather together such old recipes and all the folk-lore of building. In Devonshire many ancient words survive; such as the *durns* of a door, a *planchen* floor, *heling* slates; and in the North they still fly a flag when the roof tree of the humblest jerry-built cottage is set up with rejoicing.

These rough, tired men that sometimes irritate us, the "so-called British Workmen," are

after all the true artists in building, the representatives of the mediæval architects, and it is absolutely necessary that some relations and community of interests should be established with them once more. As it is, I never go on a building which I call my own but I want to beg their pardon for my vulgarity, pretentiousness, and ignorance. It is they and they only who sufficiently know what stones are sound and set on their right bed; what cement works properly under the trowel; whether every tile in the roof has two nails, and so on.

The offices of the several organised trades are quite the best centres to get valuable and largely disinterested advice as to local materials and labour. These unions, in a much narrowed form, represent the old guilds, and I feel certain that any real improvement in practical building will be accompanied by these unions assuming more and more the functions of the old guilds. They will see that even for their present prime purpose of keeping up wages other things are necessary than the crude war of strikes.

The transformation of the existing builder into a contracting agent, and the consequent almost entire failure of the last remnants of the apprentice system, must tend to put the teaching of the several crafts into the hands of the men themselves. By means of schools, and a system of apprenticeship to the guilds, masons will again see to the training of masons, carpenters of carpenters, and plasterers of plasterers. Even at this moment the plasterers of London are trying to make it an obligation that all learners in their trade shall pass through such technical classes in plastering as already exist: if this point is gained men will not ultimately be accepted by their fellows as qualified unless they have gone through such an apprenticeship course; thus we shall get back to a definition of "mastership" in the crafts once more. If an interaction between organised trades and public technical schools could be generally set up we should get back near to the mediæval theory by which a boy was practically apprenticed to his guild and the corporation of his town.

The quality of workmanship rests in the long run on an economic basis: the thought and energies of the workers are now so exhausted by the wages war that they have only heart and strength left for routine labour. It is always so.

The art of Japan was the work of craft artists retained by the great families: Feudalism, if you like, but still reward and joy in life to the craftsman. The art of the monasteries was the flowing out in illuminated books, illuminated glass, illuminated wall surfaces, of the security and discipline of the cloister: Religion, if you like, but still peace in work. The art of Florence, Bruges, Paris, London, in the thirteenth century, was the art of cities in which the organised crafts had assumed the command: a mere detail of civil government, if you like, but to the workers pride and reward in the work of their hands.

It is said that the breeze of art blows where it listeth; here you will find it with absolute slavery; there, with a formal tyranny; here again, as at Florence and Bruges, with a sort of communism. Where is the common principle? There is none common in the *names* certainly, but where labour is honoured there art will certainly be found, for honourable labour is art, and that proposition must stand. We must draw near to the workmen by every means in our power. I have often wondered if it would be possible for the men at a given work to elect a spokesman who should have right of access to the architect, and the drawings. It would never do, the builder might say, for "one of my own men" to report in this way; but the answer is that the work, not the agent, pays the worker.

Again, we must learn about building in schools—schools of practice and theory, experiment and research. Building schools exist in several continental cities, and it seems to me that such schools, as representing a very large and important industry in big towns, should be established or assisted out of public funds. In a big London institution I should like to see all the building crafts carried on side by side, where experiments might be made in brick-

arching, stone-cutting, timber-framing, and so on, with due supply of apparatus and testing-plant.

Here also the mechanics of construction should be taught mechanically and demonstrated in models. May I say here for myself how much I wish somebody would write a book (less dry and abstract than such books always are) dealing with constructive results in a large way addressed to common reasoning processes. There is an extremely interesting essay of this sort by Wren in *Parentalia*, and some of Viollet-le-Duc's and Choisy's remarks on ancient construction show the same grasp of essentials. Then I would have planning and normal arrangements for given purposes taught. Even taste, the objecting *negative* taste of a good critic, might be allowed, but not a word on "art," and "design," and the styles, in the usual acceptance of those words. In such a school we might hope to bring together the different craftsmen, builders and architects, all studying together the true art of building and evolving a reasonable architecture.

The question of education in building to be solved must reach all classes of men engaged in building, and it must set itself to improve all the mass of building done in England. If we are to claim public help, I feel that we should get rid of visionary ideals and sectarian narrowness, and stand to gain with the common gain. It would have been well if we could have been ready with a scheme in which all might join a dozen years ago, when Technical Education was first being practically dealt with; but I fear unless we are less vague in our aims nothing will be done for a further dozen years, and that I feel would be a calamity. But some day, pleasant, natural, living architecture, will be refounded on common building—it can stand on nothing else.

DISCUSSION OF MR. LETHABY'S PAPER.

The President, Mr. WILLIAM EMERSON, in the Chair.

MR. PAUL WATERHOUSE, M.A. [*F.*], in moving a vote of thanks to Professor Lethaby for his very interesting Paper, said that the title, "Education in Building" had caused some anxiety. Fears and doubts had been expressed as to whether it was to deal with the education of the young, or the education of the aged, or the education of the middle-aged. They found that all their fears had been realised. The lesson had been meant for all, and he hoped they would all benefit by it. He confessed that when he saw a man of intelligence and learning approaching the Middle Ages he always trembled lest the veil which hangs over them should be about to be removed. That evening, although they had learned much, he was glad to find that some mystery still remained. Professor Lethaby had insisted once more upon the importance of the Guild system in the Middle Ages, and had shown them, by examples to which probably none of them had had access before, how consistent and successful that system was. Professor Lethaby might, of course, have carried his argument further and established the existence of guilds from a much earlier date and down to a much later one. The architect had been dispossessed altogether, as he had been dispossessed before, but still the ques-

tion was partly unanswered. There still seemed a doubt as to who designed the great buildings of the Middle Ages. Of the existence of superintendents under various names there was ample evidence; but to superintend was one thing, to design another; and once more they were brought face to face with the conclusion that the buildings of the Middle Ages, whatever might be thought to the contrary, somehow or other conducted themselves. That is to say, when they found a succession of generations of men working away at a building like Westminster Abbey, they realised once more from the evidences brought before them that evening that some Divine Providence, one might almost call it, designed that building, and that man throughout that enterprise, as throughout the Middle Ages, was much more of an instrument than of an author of architecture. That, in fact, was the conclusion to which Professor Lethaby would bring them; and he brought out the great contrast between the architect of to-day and the architect of the Middle Ages. He brought that out so strongly that they must feel that it was impossible for them to revive, even with the help of the trades unions—which help at the present moment seemed hardly likely to take a direction they could wish—the

successful conditions of the Middle Ages. The great contrast between the architect of to-day and the "non-existent" architect of the Middle Ages was that they of the present day were, or imagined themselves, faced by the necessities of copious invention. He was delighted with one phrase of Professor Lethaby's—viz. his definition of mediæval designing as a mere "contrivance." No doubt that was the true answer to the problem. The designing of to-day might be, as was the designing of the Middle Ages, simply a question of able contrivance. All the same, it seemed impossible for them at this period of history to neglect the past as a preliminary study in architecture. In fact, he was sure that Professor Lethaby did not mean them to take the view that the past could be disregarded. It might be the duty of an architect to reject the traditions of the past, to be as far as possible from the Palladian position; but it could only be his duty to do that when he had learnt all the Law and the Prophets; and when he had mastered all the Law and the Prophets he could throw them over and go on in his own way. But the Law and the Prophets had done a good deal for him in the meantime; they had, in fact, made him fit to throw them over. The Bible had been referred to that evening, and in this connection he would make one more allusion to it. Not in our version, but in the Vulgate and in the Greek, the word "architect" had been applied metaphorically by St. Paul to himself. "As a wise architect," he says, "I laid the foundation." At all events, there was one period in history at which it was realised that to a person known as the architect belonged the function of directing foundations. If the Guild system ignored the existence of architects, and if it was to be regarded as prevailing in Periclean Athens as well as in the Monastic Middle Ages: if further, as other writers hold, it was represented in Rome by the *Collegia*, how came the very word *architectus* to have an existence? He should like to make one more remark with regard to a form of contract which he found some years ago in an interesting and little-known book by Thomas Gardner—"The History of the Submerged Town of Dunwich on the East Coast." In that book would be found a most interesting transcript of the contract for building the tower of Walberswick Church. That tower was built by two men, engaged much in the same way that Professor Lethaby had described. They were paid in kind—as a matter of fact, with fish, and they were given a coat a year so long as they were "good men." That was the wording of the contract. But if one read the contract carefully one realised how extremely simple was the problem laid before those men. They were simply bound down to do a certain number of things in the building of that tower, most of which were to be more or less imitative of other buildings in the

neighbourhood. It taught one once more the lesson, that whatever they did in the Middle Ages to produce such successful results, and however they set about it, a striving for originality was not their aim.

PROFESSOR BERESFORD PITE [F.] said he had much pleasure in seconding the vote of thanks to his colleague Professor Lethaby, which had been moved by Mr. Waterhouse so ably and with such tact and feeling. They had had a very extraordinary Paper, a Paper which he imagined none of them were quite able to forecast, and at times they did not quite know into what conclusions they were being skilfully driven by the series of ascertained and proved facts with regard to the processes of mediæval building which had been so thoroughly laid before them. That mediæval architecture evolved itself step by step was a fairly self-evident proposition, and he must join issue with Mr. Waterhouse, as he did not find room in its ordinary or ordained development for, at all events, the office of the architect as known and trained nowadays. One could not imagine the coming into the scheme of Westminster of a man with a fine idea of what a cathedral ought to be—with an original idea: with an idea based on anything outside of the narrow limit—the groove, the sort of fixed rail of development in which national architecture—(perhaps he ought not to say "national architecture" but Western European architecture)—was moving. The development invariably seemed to proceed from impulse, a constant impulse, and an impulse that existed unchecked until the time of the Black Death. To him there did seem to be a halt in that impulse in Westminster—viz. when they found the process of development arrested in the western end of the nave—arrested in a singular way, and in a way one would think a singular testimony to the recognised beauty of the eastern end, which was already accomplished. The development was arrested and the previous work was copied, or very nearly copied. It was carried on to completion in the same style, in the same proportions, and in the same order. There were exceptions to this view of mediæval art, and the exceptions were very extraordinary and noticeable. They were exceptions which certainly brought before us the originating and directing mind—a mind not thinking in the mediæval groove, but a mind that thought for itself, and which was burdened with that originality from which they all suffered in this unhappy new century. He was thinking of such a work as the west front of Salisbury Cathedral, of such an effort as the west front of Peterborough Cathedral. Looking at those, we feel that we are altogether out of the tide of development, and that a new element has come upon the scene. The poetic thinker deals with the material which is at hand, and he arranges it by

certain original methods. As we think about this, and seek to understand how it was arrived at, we get back to Romanesque types of abbey churches in England, where undoubtedly originality of intention was manifested. Take, for instance, the west front of Lincoln, with its three great arches, which, he thought, suggested the three great arches of Peterborough, and with the great flanking mass of arcaded walling around and above, which might have suggested the flat arcaded walls at Salisbury; at Wells also to a certain extent we find this poetic imaginative element at work. It seemed to be introduced from outside. These cases seemed to be exceptional and to step aside from the regular development of mediæval building as such. All this takes us on interestingly to the Renaissance, when a new world was dug out of the world that then was, and the world of antique art lay discovered. He did not know if one dare call them master-masons or master-carpenters, but in the artists of that day we are face to face with thinkers of the calibre of Alberti and Bramante and the school of masters of the Art which included painting, sculpture, and architecture under the simple term, and we find them developing from Roman remains a delightful and an interesting art on an entirely new basis. That they employed to the greatest possible advantage all the resources of perfect masonry, all the resources of perfect carpentry and perfect art work that existed, is admitted. But at that point we find the mind of the architect as we now know it—the mind which, without being trained in the handiwork of the crafts with which he dealt, dealt with material as the painter deals with so much paint, or the sculptor with so much marble, and used the new architectural forms which had been discovered, and applied them for the sake of imaginative beauty and effect. That the Renaissance masters worked admirably we need not assert; they have left behind them sound intelligent work, which reveals their delight in their profession, in their opportunities, in their buildings, and in sense of the glory of the age in which they lived; and we understand it, see it, and feel it. Time moves on, and we find the mysterious spirit of Art slackening; the arts become dead, and as the artistic instinct seems to lose power over the architect, somehow it seems to transfer itself to the craftsman. If we look at the eighteenth-century work in England we find that imagination has lapsed to a very great extent; but a perfect school of what we might call domestic building is in our midst, using simple Renaissance forms, and re-using them and re-arranging them in very much the same way as the mediæval architects at an earlier period arranged their mediæval material and method. That again is killed at the end of the eighteenth century by the revivals of Greek—later of Gothic. The Gothic revival

again gradually awakes to the delights and beauties of craftsmanship, and dies leaving these beauties behind without architecture; and here we are to-day still contemplating the problem of the future style which we have contemplated for so many years. Where are we? and for what are we working? How are we to design this building? or that? is a daily questioning. Professor Lethaby's self-abnegating position was a rightful one. It will be a difficult one to accept because it will be a difficult one to work in; but if the doctrine is incontrovertible and if the position is sound, it will sooner or later assert itself, and we cannot afford as a profession to go on raking in the quagmire of the styles. We cannot with self-respect retreat upon the Victorian and develop a new Edwardian. We cannot pick up any of the lost threads of the last century and start again with them. There was even a time when we were threatened with a Japanese revival, just as the last century was threatened with a Chinese revival shortly after the time of Horace Walpole. What indeed was this new century to be threatened with? This brought him (the speaker) to a point upon which it was important to say something—viz. as to the position that we hold as an Institute with regard to education in art. We, of course, could only work with the existing and accepted traditions of the profession, of the body to which we belong. Those traditions continually modified themselves, and reacted upon themselves. Can we afford to perpetuate longer the traditional difference between the Classic and the Gothic school? Can we in our examinations wisely insist upon an accurate knowledge of one style or the other instead of upon merely an accurate knowledge of building art as such? Had the time yet come when we could dispense with the diversity that exists between the art of design and the art of construction, and disabuse our minds of the idea—which unfortunately is a fact—that men who are good in design are bad in construction, and that men who are bad in construction are good in design? If we have not attained to that point Professor Lethaby has been preaching to us in vain, and his Paper would be thrown away. That that point must be arrived at all would admit. It was admitted that the properly qualified architect is the man who is a good constructor and a passable designer, or, it may be, a bad designer and a good constructor. But we cannot be content with this. We must do our best to bring some solid doctrine of architecture into the foundation of our system. He could only hope that Professor Lethaby's Paper might lead to heart-searching in that matter. In the Institute they were in a very curious position. Members would recall the circumstances connected with the memorial which was drawn up some ten or eleven years ago with regard to examinations in architecture, wherein it

was pointed out that to examine in the art of design and to examine in the art of architecture was scarcely possible; at all events, it was not considered to be proper and desirable. The Institute at that time had in its examination programme examinations in design conducted in a different way from that in which they are conducted now. He was glad to say that more consideration had been given to the matter, and more time was allowed to prepare sensible and practical working designs; but the position generally was unchanged. But when the applications of candidates for the Fellowship of the Institute were considered, the policy of the Institute suffered a complete reversal, and the principle was accepted with regard to Fellows that, provided they were good constructors, provided that they were accepted as reputable practitioners, the Institute did not examine them in design, but only in those parts of their professional life and work which affected the good of the country—the benefit of public health and the repute of the profession. The time, he thought, had now come for the sound sanity of that policy to be applied to the Associateship examinations as well as to the admission to Fellowship; and he would like to suggest that a further modification might be arrived at by the Board of Examiners with regard to the examinations in architectural style. Architectural style was altogether worn and played out. We should do ourselves no good by perpetuating it. We might ask for a proper acquaintance with the forms of certain buildings as a matter of examination, and as a matter of examination alone, but we run the risk in doing that of directing the attention of the student to the outside, to the forms and chattels of a building, rather than to the main principles which underlie it. Professor Lethaby's Paper opened up all sorts of possibilities for discussion; he (the speaker) hoped that the seed which had been so carefully prepared for the sowing would bring forth some effective results in our daily practice and in our views of the proper qualifications of architectural education.

MR. LEONARD STOKES [F.] said that he honestly admitted that he was a little confused, but he nevertheless sympathised completely with Professor Lethaby's views; at the same time he could not quite follow them out to a logical conclusion, and he doubted whether Professor Lethaby himself could. The old days were very charming days—when John the mason, having raised the walls of a building, called in Bob the carpenter to consult with him as to whether he should put a stone or a wooden roof on. On that point he joined issue with Professor Lethaby. He did not believe that that sort of thing ever existed. There was some scheme at first that the building should have a vaulted roof, but frequently a mistake was made, and John the mason, before he got

to the top, found that the building would not carry a stone roof. Then he called in his friend Bob the carpenter, and explained that he had made a mess of the job and asked him to put a wooden roof on for him, and Bob assented with pleasure, and did it. But that was not a design, it was a muddle, and there were a number of such muddles all over the country. Did the Professor want them to go back to the old muddling days when the builders began to do something that they wanted to do, and ended by doing something that they did not want to do? Professor Lethaby made out that the architect was woefully ignorant—that he did not know what a piece of timber or a piece of stone could be used for. The Professor talked about setting up technical schools. But the architect should know far more than the ordinary workman what could be done with stone and brick and timber. The architect ought to teach the bricklayer and the mason and the carpenter; but Professor Lethaby wanted the architect to go and learn from those workmen. That was all very well; but the bricklayer, for instance, in nine cases out of ten, was a dunderhead, and made all sorts of silly mistakes. He had known him to spoil the whole design rather than depart from some recognised trade rule. Nevertheless, he (the speaker) sympathised with Professor Lethaby. Honest building was everything, and style, as they bandied it about, was a sort of nightmare that the Professor described very excellently as the "Syndicate Style." The idea was to run up a place to catch the eye, and to let or to sell; but as for being honest work as such, it was not. In conclusion he supported very heartily the vote of thanks to Professor Lethaby. If, as he confessed at first, he was a little confused at some of the propositions laid down in the Paper, he had learned a great deal of useful knowledge from it.

MR. THOMAS BLASHILL [F.] said that one of the comforts they enjoyed in listening to a lecture of this kind was that they might accept all the lecturer's premises without coming to his conclusion. Professor Lethaby's Paper was most instructive in regard to enlarging their information as to what was actually done in the olden times; but as regards the Abbey of Westminster, he was quite unable to believe that that particular building, French in its grand system of design, although it might be English in its details, could have been designed by any Thomas, or John, or Robert of Beverley, or any of the other persons whose names had been mentioned. It was true that they did not know who were the master-minds that carried out the building—but there might be reasons for that. In the olden times there was not that anxiety that there is now on the part of a man to have it known for all time that he himself had done the work. Few people put their names to the work, or apparently even thought of

it. Another reason he would suggest was this: the class of men who worked on those buildings, whether with their hands or as designers, had not, as a rule, any distinctive surname. No doubt, if there was one John of Beverley there were fifty Johns and Roberts of Beverley going about the country. The name was useful on a particular job and amongst a narrow circle of men. Thus, if the great statesmen and warriors of the Middle Ages—the Salisburys, the Beauchamps, the Warwicks, and so on—had had no distinctive name, but instead were John or Robert of So-and-so, how little their names would be known or recorded! If the workmen had had specific names which distinguished them from everybody else, it is more likely that they would have come down to posterity. He thought, again, that we reckoned too much upon what we find in the Renaissance styles. Men like Inigo Jones, for instance, who posed sometimes as joiners and sometimes as architects, we think of because the actual designer was also the workman. He did not think that that was so until a very long time after the Reformation and the destruction of the monasteries—probably for one hundred years. Owing to political changes very few buildings of consequence were erected at all, and the upshot was that when new buildings were required the best of the actual workmen who knew all about the building and were most fitted to take up the work were called in. He did not think they could argue from that that there were no special architects in the Middle Ages. He quite agreed with Professor Lethaby about going to workmen for their actual knowledge. Too little of that was done. There was too much time spent in schools—too much time spent over books. There were too many details forced upon them—too many ways of doing a thing. In olden days they were content with one way of doing a thing; now they had half-a-dozen, and architects were expected to know all of them, and that was a clog and a hindrance. So far he would argue, but he could not argue that Westminster Abbey or any other great building grew up through a combination, however close, and however small and select, of superior workmen. There must have been one master-mind which, from the laying of the lowest courses of stone, had decided and was able, either by drawings or in some other way, to teach the workmen what was to be done from the bottom to the top. If they saw a plan of a French or an English thirteenth-century building of importance, they could tell everything with regard to the principal parts of the structure, from the base to the vaulting ribs which were the cause and object of the base. It could not be done in a haphazard way, and work of that kind could not be carried on by a chance combination of able workmen who changed from time to time.

MR. SYDNEY VACHER [A.] thanked Profes-

sor Lethaby for the highly interesting information concerning English and other mediæval architects, but expressed disappointment that nothing as to the social status of these grand old builders had been given. He could scarcely believe these men to be mere craftsmen. In illustration, Italian painters were spoken of, with their following of pupils and social status, but then as now it was presumed everyone fancied himself a judge of a picture. As master painters enjoyed an exceptional position, did not architects then enjoy an equal, if not greater, social status? In Italy certainly the works of architects were appreciated, and it required quite as great genius to produce beautiful architecture as to produce pictures good enough to last through ages. A mere knowledge of materials and construction was not enough to produce architecture, any more than a knowledge of paints, the skill in handling them, the capacity to draw correctly, and the memory to reproduce old and modern scenes, were enough to make a great artist. It was the brain of the artist, the genius, that was required so to use the knowledge and material as to produce artistic work. It was acknowledged that whoever was responsible for the design of such a building as Westminster Abbey or St. Sophia, Constantinople, he was no mere craftsman, no ordinary mason or carpenter, but a man who at the present day (and probably in his own day) would be recognised as a highly cultivated genius, admitted into the society of the highest in the land and honoured and trusted by them. The speaker went on to allude to the present day inclination to decorate buildings with scantily draped sculpture after the antique, citing Tietz's new building in Berlin, and advocated the sculptor taking his models from the life and costume around him. He hoped that this might be done in the great monumental work about to be erected to the memory of the late Queen Victoria.

THE PRESIDENT said he was sure that they were very much obliged to Professor Lethaby for the very interesting Paper he had given them. At that late hour he did not wish to add anything to the discussion, but with regard to the point made by Professor Lethaby as to the work being done by a master mason and master craftsman, if he were to go to India he would find the same thing being done there at the present day. About eight years ago he was in India, and, in company with the engineer of the province, visited Gwalior, where the tomb for the late Scindia, the present Scindia's father, was then being built. The work was being done entirely by natives, under a native master. It was an enormous building, and no European had had anything to do with it. On asking to see the drawings the master produced a model of the dome, and said that was all he had to show. He (the President) asked him how he managed about the execution of such elaborate stonework, and he tapped his forehead and said that it was

there. He supposed the great churches of the Middle Ages were built very much as the buildings in the East were at the present moment. The guilds and the masters handed down to their pupils certain rules and forms, and when they had to erect a building of given dimensions they knew exactly what kind of piers to put up and the detail to place above them. The master mason simply arranged the stones out of his head for the under masons to work. He thought, however, that there must have been a person who made some sort of drawings. In Vilars de Honcourt's book they would find drawings showing that, however roughly they were done, some master hand actually guided the plan and the details and the design of the building to be erected. It could not have been the case that the foundations were put in and the piers built by the mere chance of a clever mason thinking what he should do afterwards. There must have been some master mind guiding the whole from the beginning. That system applied in India now, and might have applied in the Middle Ages, but with the requirements of modern life, if they handed over a big city building to a master builder, a bricklayer and a carpenter, the building would hardly answer the requirements of the clients who wanted it, even if it did look more beautiful than the buildings that architects could design.

PROFESSOR LETHABY, in reply, said he did not remember having spoken about building being done in the absence of a scheme. All he said was that building was done by masons and carpenters. He did not mean that each of the 800 men employed acted independently on his own account. Nothing of the sort: they began as apprentices, mixing mortar and so on, and from that they rose and became very great men. It had been said that a mason was a common man,

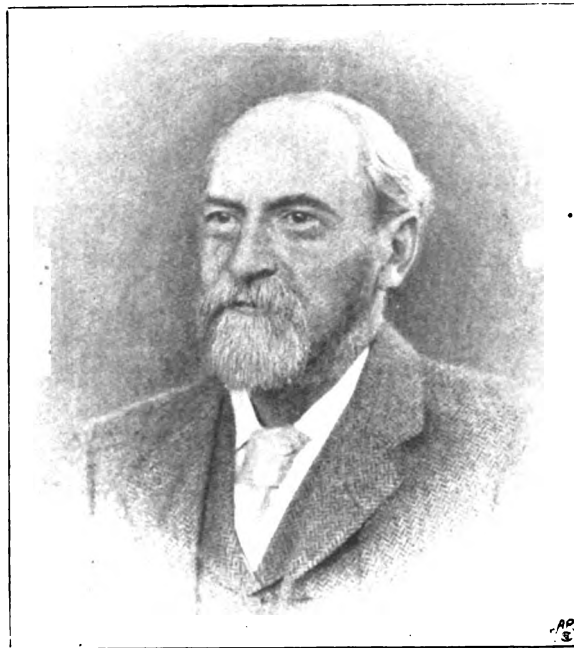
but that was a mere assumption. According to the meaning of the mediæval word, it was possible for a mason to graduate from cleaning the shop and mixing mortar to be the equal of any man in the realm.

Mr. WALTER MILLARD [A.] writes:—

Since listening to Professor Lethaby's Paper I feel more and more moved to ask whether he would not, in his modesty, lead us architects, if he could, to overlook one trifling consideration, viz. that after all the education in building which we can get—and the more we can get the better—there still remains to be cultivated and practised an art in which he himself is so justly recognised as a master, the art of architecture; that something more than—something above and beyond—the art of mere building; that gift to man of expression in terms of building; that exercise of human power to create and control form in building, to dispose and deal with mass and void, with surface and shadow, with outline and colour; the art by means of which Ictinus shaped his masterpiece to a hair's-breadth, or Anthemius and Isidorus produced the wondrous interior of St. Sophia, by which the Porches of Chartres were invested with their special stateliness of form, and by which Wren was able to crown our city with a cupola unmatched in studied grace of outline and grandeur of mass combined; an art analogous, surely, to that by virtue of which painters such as Titian or Velasquez paint, or that by which music such as Handel's or Beethoven's is vouchsafed to mortal ears; the art of the artist, as distinct from the handiwork of the artisan; the art of moulding and fashioning the forms and features of building to meet the needs and to embody the imaginings of building man.

THE LATE JOHN McKEAN BRYDON, *Vice-President*.

ALL members of the profession will deeply deplore the loss they have sustained by Mr. Brydon's death. His cheery manner and shrewd good sense drew men towards him, and his tactful way of doing and suggesting things gained the respect of all who came in contact with him. These qualities were such as appealed to most men, but over and above all these his skill as an architect endeared him to his brother artists. Some twenty years ago it was said by one who knew him, "he is an architect well known in his profession but unknown outside it," and the chances that came to him later in life, to show of what stuff he was made, were as heartily welcomed by his fellow-workers as they were appreciated by



himself. No man more justly won his spurs—by hard work, by capacity for taking infinite pains, by researches in Classic and Renaissance fields of labour, by an intimate knowledge of the great works erected by the master builders of all periods, by a catholicity of mind which appreciated that subtle thing termed "style" in all phases of architecture.

To the student who studies his works, it will be seen that though they vary in quality and are essays in different "styles," they are all distinguished by that mark of excellence which shows the mind of the true architect who uses style as a language with which to express new thoughts. The same distinctive quality can be traced in the works of Mr. Norman Shaw and the late J. D. Sedding, men who, like John Brydon, helped to raise architecture out of the ceremonies of archæology and antiquarianism.

Twenty years ago the chances of his having some great work to do, which would embody

in permanent form his message to succeeding generations, must have appeared very slight indeed, and yet we find him studying and perfecting his knowledge of that type of Renaissance with which he was most in sympathy. At that time Gothic of various types held public approval to the virtual exclusion of everything else, and yet we never find Brydon on the side of fashion in styles for the sake of transient appreciation. His earlier training, under Mr. Bryce, of Edinburgh, gave him a grasp of Classic and Renaissance architecture which influenced all his future career, and we find him in 1866 as managing assistant to Messrs. Campbell Douglas and J. J. Stevenson in Glasgow, where, about that time in the same office, were the late B. J. Talbert, Messrs. Wm. Leiper and Wm. Wallace, all men who later were distinguished in their several spheres. The acquaintances of these earlier days became the intimacies of riper years, and Brydon, after two or three years in London as assistant to Nesfield and Shaw, joined Wallace and Cottier in establishing in Langham Place a decorating and art furnishing business on the lines of Morris and Co. This was another of those practical efforts of the architect to get in touch with the handicrafts which afterwards developed into the Arts and Crafts movement. The work undertaken by them consisted of architecture, interior design, and decorative furniture and glass. After a few years the firm was dissolved, Mr. Cottier devoting his energies to the establishment of a picture-dealing business, while Wallace and Brydon returned to the more accepted paths of an architectural practice; but there can be no doubt that the experiences gained in these bye-paths gave Brydon a grip of things which later served him in good stead and made him confident in dealing with the details of a modern practice.

Architectural commissions soon came to him, and in 1883-84 he carried out St. Peter's Hospital, Henrietta Street, Covent Garden, and in 1889 the New Hospital for Women in Euston Road. The London School of Medicine for Women, in Handel Street, Brunswick Square, followed about 1896-97, and this completes the hospital and medical buildings designed by him. In all these works, the exigencies of the plan were of primary importance with him, and we find fine designs growing in a natural manner from carefully thought out and detailed plans.

These works form a very striking contrast to the hospital buildings erected in such profusion throughout the country by public bodies, whose object seems to be to attain the maximum of ugliness combined with a scientific accuracy of cubical contents and superficial area of window openings. One can imagine what a fine chance has been lost to the world by such bodies not employing a man of Brydon's architectural instincts on a huge hospital of three or four hundred beds, where his sense of the architectural fitness of things would have found expression through a plan that would embody the scientific requirements of our time.

In domestic work we find him at first a follower of Messrs. Shaw and Nesfield, and later his own personality comes into prominence. The Village Hall, Forest Row, Sussex, for Mr. Freshfield (afterwards destroyed by fire and rebuilt from his designs); "Lewins" in Kent, for Mr. Joseph Robinson; "Bournemead" at Bushey; "Pickhurst," Surrey; the remodelling and alterations on the Château de Buillon, and a new studio for the painter, M. James Tissot, are works which show his talents in the field of domestic architecture.

Mr. Brydon became acquainted with M. Tissot about the time of the Franco-Prussian War, when M. Tissot had a studio in London, and afterwards they became intimate friends, Mr. and Mrs. Brydon being the guests of M. Tissot on the completion of the new works at the Château.

In 1885 the Chelsea Vestry Hall competition gave Mr. Brydon his first big chance in municipal design, and the works which he then and subsequently carried out in Chelsea—the Free Library in Manresa Road in 1889, and the South-West London Polytechnic in 1891—



CHÂTEAU DE BUILLON, NÈAR BESANÇON. GARDEN FRONT.

mark the period when his talents were concentrated on a particular phase of English Renaissance which he made peculiarly his own. This style was also eminently suited to Chelsea, where Brydon's work has the air of being indigenous to the soil.

The block of residential chambers for ladies in Chenies Street, Tottenham Court Road, is one of his most successful efforts. It is a fine bit of modern street frontage design, in which the difficulties of dealing with a great number of small rooms, giving each ample window opening, and boldly grappling with the modern requirements as to light and air, while at



CHÂTEAU DE BUILLON. GARDEN FRONT, WITH STUDIO IN THE FOREGROUND.

the same time preserving an architectural unity of design, brought out what was characteristic in Brydon's talents. All these works in London are worthy of the careful study of our younger men, and point the way along which further progress may be attained.

In 1891 he gained the first premium for the Municipal Buildings at Bath, and for eight years was employed by the Corporation of that city in designing and carrying out the Municipal Buildings, Technical Schools, the Victoria Art Gallery and Library, the Pump-Room Extensions, and the works in connection with the covering in of the Old Roman Bath. These buildings in Bath comprise the most important of his completed works, and the Corporation and architect deserve our heartiest congratulations on the satisfactory results of their labours.

It was a fortunate chance that enabled Brydon to begin this work, and the authorities did a wise thing in retaining his services for the subsequent buildings, all of which reflect the highest credit on the city whose distinguishing characteristics are the architectural works of the two John Woods and Thomas Baldwin. In Bath Brydon found himself among congenial architecture, in touch with the tradition and spirit of the place, with full knowledge of its rich treasures of eighteenth-century English Renaissance, and felt inspired to do the best that was in him.

About the year 1885 he appears to have found the style most suited to his mind, and the mellowness of mature power is evident in the designs of these and later days. Apart from the correctness of his detail, there is an architectonic dignity and proportion in these later works which distinguished them from mere learning; they are greater than precedent, that anchor of shallow minds.

The grasp of great masses of building and the clothing of these with refined, beautiful, and appropriate detail are, perhaps, most evident in his designs for the Local Government and Education Department buildings in Whitehall. In 1898 he was appointed architect for this important group of buildings, and went to Rome to study the great classic remains and the Italian Renaissance.

His previous visits to the continent do not appear to have had so evident a bearing on his design. Perhaps it was that this later visit on a definite mission focussed his ideas on a phase of design, and enabled him to catch the spirit of the old Roman work. Certain it is that he was greatly impressed with ancient Rome, and found there food for his desire to know at first-hand the masterpieces in the birthplace of an architectural style congenial to him. He had the intention of returning at some future day to Rome and continuing the study of those works, but fate has willed otherwise, and perhaps we see in his Government Offices the most mature exposition of his talents—that simplicity of scheme, breadth of ideas, a mind not afraid of plain spaces, a taste superior to the trickeries of mere ornament, and a fine sense of the dignity of solid building. Every one will keenly regret that the hand which began this work so well will guide its development no longer—and for London's sake, and his, it is to be hoped that his design will be carried out in a sympathetic spirit of appreciation.

Mr. Brydon was one of the "thorough" architects—a man who was conversant with all the multitudinous details of modern practice, who never shirked his work, or passed over any small matters because they were unpleasant or unattractive, or hurried through them so as to get on with what may have been more important or lucrative. Calling on him early this year I found him busy on the details of his Government Offices, designing and drawing the carving of the figures and ornament on the façades, and pointing with pride to the sketch by Professor Cockerell, R.A. (of whom he was a great admirer), for the sculptured pediment of St. George's Hall, Liverpool, he said, "There was a man who knew all about architectural sculpture and could express his ideas intelligibly." Brydon did not believe in leaving these points to the sculptor without first expressing clearly the lines on which the sculpture must be designed, and the success of his work must be largely due to this capacity of thoroughly detailing all portions of his buildings.

The finest credential to the fairness and growing value of the competition system is the fact that it brought Brydon to the front rank, and gave him the opportunity to do that class of work best suited to his capacity. His success in competitions was the success of the man who was confident that good planning allied to architectural design must inevitably find favour, and in this belief he was not disappointed. Had the jury system of assessing important competitions obtained in this country as it does in France, there can be little doubt that Brydon's success would have come earlier and in greater degree. But even under

our imperfect system of one-man assessorship his work often obtained recognition, and many premiums were awarded to him. For the Whitfield Chapel, Tottenham Court Road, the Free Library, Wolverhampton, and the Taunton Town Hall, his designs obtained the second premium; and other important competitions, such as the Edinburgh Municipal Buildings, West Ham Technical Institute, and the Central Criminal Courts, Old Bailey, gave him the opportunity of producing fine designs.

He acted as assessor for the Technical College at Sunderland and the Municipal Buildings at Southend competitions, and always took a healthy view of that method of



ART GALLERY AND LIBRARY, BATH.

discovering architectural capacity and giving it an opening for expansion, which was of such value to himself, and is of great moment to the architectural development of the whole body of the profession.

At the Institute his presence will be greatly missed; his shrewd common sense, combined with his enthusiasm, was always welcome, and his way of stating things appreciated by his colleagues, all of whom feel that they have lost not only a brother in art but a friend who made life sweeter by his genial presence.

JAMES SIVEWRIGHT GIBSON.



9, CONDUIT STREET, LONDON, W., 22nd June 1901.

CHRONICLE.

St. Paul's and the Piccadilly to City Railway.

In a letter which appeared in *The Times* of the 14th inst., the President, Mr. William Emerson, writes:—

"Of late years, more than at any other period of our history, attention has been directed to the preservation of our national monuments. St. Paul's has been the subject of much comment lately in respect of its decorations. But a matter of far greater importance than even the question of its artistic decoration—one which may affect its stability in the future—should, I venture to think, have the greatest possible publicity.

"I refer to the Bill before Parliament for the construction of a tube railway from Piccadilly to the City, which is planned to pass along Carter Lane, within about sixty or seventy yards of the foundations of the dome of this noble structure, and at a considerable depth below them.

"That vibration to a very considerable extent would occur no one in his senses could doubt, and we have had some experience of this in other directions recently.

"It is not the particular violence of the vibrations that might be set up, but the constant quantity that would probably eventually affect the structure, for, as Wren has stated in the *Parentalia*, 'the incessantly vibrating makes a small intestine motion through all the insensible parts of the wall, and by degrees loosens all the bond of the mortar, and moves every stone from its bed; this motion once begun hath its effects more and more till at length it is quite loose and falls.'

"There would be, then, in all probability a very real danger were this Bill passed. It is, I understand, creating great opposition all along the line of its route, and surely if commercial energy may be a source of possible destruction to a national monument like St. Paul's, the voice of the public should be raised in conjunction with that of the Dean and Chapter in the most strenuous opposition to any such enterprise."

Site for the Liverpool Cathedral.

A special meeting of the members of the Liverpool Architectural Society was held on the 18th

inst., the President, Professor Simpson, in the Chair. There was a large attendance of members, and the following report was adopted:—

The question of the site for the new Cathedral of Liverpool is naturally one of great interest to all architects, and especially to those practising in Liverpool.

The first essential of a Cathedral for Liverpool is, that it shall be a Cathedral of the diocese, and not of the city only. The most central position for the diocese is that in closest touch with the railway stations. Four sites have been suggested—

- | | |
|-------------------------|------------------------|
| (1) St. Peter's Church. | (3) St. Luke's Church. |
| (2) Monument Place. | (4) St. James's Mount. |

These are placed in order of centrality. Of these four sites, Nos. 1 and 3 are not considered, as for various strong reasons they are regarded as inferior to the other two.

The advantages of the Monument Place site are as follows:—Its position and approach are unrivalled in Liverpool. There is an opportunity here for a west front which might be the finest in Europe. The proximity of the site to the great public buildings of Liverpool is of the utmost importance. Its relation to St. George's Hall in view of State processions, civic or otherwise, is of great advantage. It is near to, or in direct communication with, the principal railway stations, and is passed by cars from the pierhead as well as by those from the north and south of the city. The site is a very high one, the level of the ground at the west end being the same—132 feet above the Datum line—as that of the St. James's Mount site, and any building, therefore, erected thereon would be as visible from the river and the Cheshire side as one placed in the latter position. The foundation is rock. The removal of many of the buildings at present on the site would be of distinct advantage to the welfare of the city. Finally, the orientation would be that customary in English cathedrals and churches.

The disadvantages which have been urged against it are:—The cost of the site; the noise from passing cars and traffic generally; and the surroundings. As regards the first, this is undoubtedly very great. The question of noise is not a serious one, owing to the construction necessary for so large a building. St. Paul's, London, is very similarly placed, and the sound of the traffic outside is hardly, if at all, perceptible inside. The surroundings, it is true, are not all that could be desired; but cathedrals ought to be equally accessible for all classes of the community, and the most favoured quarters are not necessarily the best for these buildings.

The advantages of the St. James's Mount Site are as follows:—The site itself would be much less expensive than that of Monument Place. The situation is a quiet one, and the surroundings are picturesque. Any building erected here would stand out well, and could be seen from the river and Birkenhead.

Its disadvantages, in our opinion, are much greater than its advantages. Its inaccessibility is perhaps its greatest; it is far removed from the main lines and centres of traffic. The site is a very narrow one, and it would be difficult to obtain a good near view of any large building placed upon it. The approach, in an architectural sense, is very bad indeed, and no vistas would be obtainable from any point. The cost of the foundations would be very heavy: either the present mound would have to be removed, or else the foundations would require to be carried down very deep. The suggested suspension bridge over the cemetery would be exceedingly costly and possibly unsightly. If the cathedral is placed as has been suggested, the orientation will be contrary to the immemorial traditions of the English Church. A practical objection to this proposal is that the sunlight striking through the window or windows at the end of the chancel, which would be south, would be a very serious inconvenience to the congregation.

In conclusion we consider that questions of economy ought not to be allowed to over-ride every other consideration in placing a building which is to stand for all time. A cathedral need not be built in one life-time or by one set of donors. We suggest that it would be possible and sufficient for this generation to make the commencement of an entirely worthy work by acquiring a part of what we consider to be the best site (Monument Place), and erecting a portion of the building upon it. This portion might be either the grand west front and nave, taking up the frontage to Monument Place and extending back to Anson Street, or it might be the chancel and transept portion, which would stand on the cheaper land, eastwards, with a temporary west entrance from Anson Street.

In matters of vast importance, such as this, the only thing worth aiming for is the best, and it is our experience that, in the long run, this is the most easily obtainable.

The Architectural Museum.

The Council of the Institute and the Council of the Architectural Museum have come to an agreement whereby the Institute makes an annual donation of twenty guineas to the Museum, and, subject to existing arrangements, three representatives of the Institute have seats on the Museum Council, and members of the Institute and of the Architectural Association have free admission to the Museum for sketching purposes at all times when it is open to the public.

The Nottingham Society and Competitions.

The Annual Report of the Nottingham Architectural Society refers with satisfaction to the action of the Council of the Society in regard to a local competition, which resulted in the promoters agreeing to modify and considerably improve conditions which, as first issued to competitors, were very unsatisfactory and injurious to the interests of the profession.

The following memorandum has been drawn up by the Council of the Nottingham Society for signature by members of the Society, and by non-members practising in the district:—

"We, the undersigned architects, pledge ourselves not to submit plans in any competition promoted in the province of the Nottingham Architectural Society, unless the conditions are those published by the Royal Institute of British Architects, or in accordance with the spirit of the same."

The Report states that every local member of the Society except one has given this pledge, and only one outside architect has declined to sign, though he expresses his approval with its object. The Council invite architects, on hearing of a competition being mooted, to at once notify the Hon. Secretary, so that the matter may be taken up officially by the Society or by the R.I.B.A.

The late John Alexander Russel Inglis [A.].

The death of Mr. J. A. Russel Inglis, of the firm of Messrs. Williamson & Inglis, of Edinburgh and Kirkcaldy, which took place under peculiarly distressing circumstances on Sunday, the 9th inst.,

closes a career of considerable promise. Mr. Inglis had been suffering from insomnia, consequent on overwork, and succumbed to an overdose of a sleeping draught. He was only thirty-one years of age, and was to have been married on the following Tuesday.—Mr. Inglis served a five years' pupilage with Mr. James B. Dunn, architect, of Edinburgh, and afterwards entered the office of Mr. Hippolyte J. Blanc as assistant. He was an enthusiastic student, and attended the classes of the School of Art and Heriot Watt Institutions and the Work Classes of the Architectural Association in Edinburgh. Leaving Edinburgh, he spent some time in the office of Mr. Wilkinson Moore, of Oxford. Coming to London in 1893, he passed the qualifying Examination, and was admitted an Associate of the Institute in 1894. In the competition for the Institute Travelling Studentship, the Soane Medallion and £100, in 1897, his design for a Provincial Market Hall was selected for the prize from among fourteen competitors. His studentship tour, extended to nearly a year, was made in Italy and Sicily, and his talents as a draughtsman were again shown in the varied collection of drawings resulting from his tour which were exhibited with the prize competition drawings at the Institute in 1898. On his return to Edinburgh Mr. Inglis entered into partnership with Mr. William Williamson, of Kirkcaldy. The firm were recently successful in the competition for Kirkcaldy Police buildings. The Hon. Secretary, at last Monday's General Meeting of the Institute, made feeling allusion to the untimely loss of so promising a member.

The Royal Institute of Architects of Ireland.

A deputation from the Council of the Royal Institute of the Architects of Ireland, headed by the President, Sir Thomas Drew, waited on the Local Government Board (Ireland) on the 14th inst. to make representations against the system under which unqualified men are frequently employed as architects, civil engineers, and clerks of works by Urban and Rural District Councils and like public bodies, and to urge a demand for an amendment of the present Act which would enable the Local Government Board (Ireland) to provide a safeguard against such appointments. The Board promised to give full consideration to the views put forward by the deputation.

The New Belfast Society.

The Secretary has received the following communication from Sir Thomas Drew [F.], R.H.A., President of the Royal Institute of the Architects of Ireland:—

I am glad to inform you that at length, after many difficulties, a Society of respectable architects has been established for the north of Ireland. Heretofore, as you may be aware, the position of the profession of architecture in the important city of Belfast (with a population of 880,000) has

been a scandal and discredit to the position of architects in the rest of the kingdom. I cannot say that the perfect chaos of professional practice and usage, and the indecencies of rivalries and competition for fees at any amount, and the low social standard of a large body practising as architects in Belfast is at an end, or even that for years the status of the architect may be in line with other cities of the kingdom. A good beginning, however, has been made by an association of the better class of architects, and prevailing scandals of architectural practice will be checked by notoriety and publication of them at least.

This Society will, for the present, be affiliated to and in harmony in its by-laws with our Institute of Architects in Dublin, and will practically, until its mature existence is assured, be under the influence of the Royal Institute of British Architects, through ours over it as an Allied Society.

The members of the new Society have done me the honour to insist that I shall be first President of it in my native town, with Mr. W. I. Gilliland as a working Vice-President, and Mr. Fitzsimmons as Secretary.

I beg to commend the Vice-President and Council of this Society to the courtesies and consideration of the Royal Institute of British Architects in any passing communications, as being composed of gentlemen of respectable practice, and desirous of loyalty to and conformity with the observances and rules of the Royal Institute of British Architects.

The Architects' Benevolent Society.

At the General Meeting of the Institute last Monday, the President, who is also the President of the Architects' Benevolent Society, said he had much pleasure in announcing that the appeal which he had made at the Annual Meeting of the Society, and which had been so promptly supported by Mr. Macvicar Anderson's generous offer to contribute £100 if the sum were made up to £1,000 by contributions from other gentlemen, had been quite successful, inasmuch as £1,189 2s. had already been received. The Society was greatly indebted to the gentlemen and Allied Societies who had so promptly and so liberally responded; and it was particularly indebted to Mr. Macvicar Anderson for his personal exertions in the matter. Although this sum had been received, the President hoped that the announcement would not stop the flow of contributions, as the demands upon the charity of the Society were large, and the pensions and grants which it was enabled to give were sometimes quite inadequate to the circumstances of the case. No one knew better the needs of the Society than Mr. Arthur Cates. He was for many years its Treasurer and at the time of his death a Trustee. Mr. Cates, knowing so intimately the work of the

Society and the inadequacy of its means to meet the demands made upon it, had, he had seen announced in *The Times*, bequeathed to it the sum of £1,500. This handsome bequest, he thought, was sufficient to show that the Society needed more liberal support, and that the money entrusted to its care was wisely and carefully distributed.

Mr. Gordon Smith's Retirement.

The retirement of Mr. P. Gordon Smith from the Local Government Board does not seem to have received that notice from the professional press that such an event might warrant. There are very few practising architects who have not come into contact with Mr. Gordon Smith, and one and all can testify to the kindness and sympathy which he always exhibited in the conduct of the public duties which devolved upon him. It is pleasant to have an opportunity of recalling the many instances in which he was of service to his younger colleagues. So important an office as that of architect to the Local Government Board, requiring not only skill in the interpretation of Acts of Parliament but also an intimate acquaintance with practical architecture and professional methods, should be filled by an architect of recognised position and attainments. It is gratifying to note that Mr. Gordon Smith is once more on the Council of the Institute, where his wide experience has always been of great value.

MINUTES. XV.

At the Fifteenth General Meeting (Business and Ordinary) of the Session 1900-1901, held Monday, 17th June 1901, at 8 P.M., the President, Mr. Wm. Emerson, in the Chair, with 26 Fellows (including 11 members of the Council), 24 Associates (including one member of the Council), and several visitors, the Minutes of the Meeting held 3rd June 1901 [p. 384] were taken as read and signed as correct.

The President stated that in response to his appeal on behalf of the Architects' Benevolent Society, contributions to the amount of £1,189 2s. had been received.

The Hon. Secretary announced the decease of John Alexander Russel Inglis, *Associate*.

The following members attending for the first time since their election were formally admitted and signed the respective Registers, viz. Joseph Compton Hall, *Fellow*; Charles Spencer Haywood (Accrington) and Robert Henry Jewers Mayhew, *Associates*.

The following candidate for Fellowship was elected by show of hands under By-law 9, viz :

CHARLES JAMES SCULTHORPE HALL.

The Secretary announced the results of the Intermediate Examination held in London during the previous week.

A Paper on "Education in Building," by Professor W. R. Lethaby, having been read by the author and discussed, a vote of thanks to Professor Lethaby was passed by acclamation.

The proceedings then closed, and the Meeting separated at 10 P.M.

LOGICAL BUILDING AND ITS INFLUENCE ON DESIGN.

By THOMAS GEOFFREY LUCAS [A.].

[Read before the Leeds and Yorkshire Architectural Society, 4th March 1901.]

IT will be best to begin our consideration of this subject by quoting a few words from Mr. Lethaby's book on *Santa Sophia, Constantinople*. Speaking of marble masonry he says:—

"After more than a thousand years of working marble through one complete development, Greek builders, by considering afresh the prime necessities of material, and a rational system of craftsmanship, opened the great quarry of ideas in constructive art, which is exhaustless.

"In a hundred years architecture became truly organic; features that had become mere "vestiges" dropped away, and a new style was complete; one, not so completely winning as some forms of Gothic, but *the supremely logical building art that has been*. If anywhere this vitalising had not been completed, it would have been in the more decorative forms: but here we find no mere exercise in applying architectural orders—everything is as fresh as in the structure."

A more suitable introduction for the subject of "Logical Building and its Influence on Design" cannot well be found, and it is therefore unnecessary to apologise for bringing this subject before you. It is one of the greatest interest to those who desire to produce real, living, truly organic and "supremely logical" architecture in an age which we are pleased to consider the greatest the world has ever seen. In the last century there has been a great stirring among the dry bones of all the various art callings, and this has been most noticeably so in our own; but it would seem that we are still very much in the stage of asking the question: "Can these bones live?" In spite of the production of what some would call truly living work, and of much that is interesting and clever, can we say when we look at the bulk of modern building that it in any way expresses the deep underlying tendencies of present-day humanity, in the same way and degree that architecture certainly has incorporated such ideas, sympathies, and feelings into itself in the past? We must admit that when we apply such a test as this to it, modern work does not at all give a satisfactory result. It somehow falls far short of the ideal architecture we should expect to see expressing a golden age in the world's history. Rather do we find its aims to be small, commonplace, and unambitious, and it is treated without seriousness, in a flippant, off-hand manner. Of course there are good buildings produced nowadays; as samples of true architecture, some may be as good, perhaps, as can be found in any age.

A larger number of buildings erected for new purposes and for new requirements are decidedly

satisfactory, and contain germs of promise of better things; and as more or less correct copies and studies of past manners a great number of edifices can be pointed out all over the land; but the bulk, the great mass of modern building fails to give even this satisfaction, and is unworthy to rank even as the ordinary architectural expression of the nineteenth century.

These remarks apply not only to works on which a professional architect is employed, or which lay claim to any architectural interest, but also to all buildings erected without such aid or such purpose. How comes it that such simple buildings even as cottages, put up in the not very remote past, invariably possess a charm which is not by any means the result of age in the building, and which is conspicuous by its absence from their modern equivalent? How is it that a small house erected now by a builder is bad in any case, and worse if the man attempts to beautify it? It was not always so, as we can see by the delightful cottages and town dwellings remaining to us from bygone times.

We cannot rest contented with this state of things, and to us therefore as professional architects is set the task of improving modern building; and in this is included that which we understand by architecture, as well as ordinary building. In an ideal state of things these would be one and the same thing, but are now sadly differentiated, for it is an astonishing fact that modern building, without the employment of a professional architect, can in no sense rank as architecture. But the very humblest old building can lay claim to some architectural character, not imparted to it in an architect's office, but as the thing grew up and by the men who built it.

By the careful study and skilled reproduction of ancient manners of building architects in the immediate past have accomplished much. They have traversed the whole range of architecture, and to-day we reap the benefit of their labours, inheriting knowledge ready to hand which *they* had taken years of infinite pain and toil to acquire. The great achievements of building which may be ranked as architectural works of the lately-closed century are almost entirely scholarly and archaeological, and their chief value as architectural works lies so much in the successful exercise of this power of reproducing the past that they cannot be said, in the best and truest meaning of the words, to satisfy the needs of living architecture. The finest architecture has

a further object in view than the mere meeting of necessities in a commodious manner, or of building beautifully; and to some extent any building, however humble, if it is to rank as a work of architecture, must also join in that object.

Architecture is one of the great arts—perhaps the greatest—and the aim of these arts is beyond utility, beyond beauty even: it appeals right to the heart of man, teaching, subduing, and leading up each in its separate sphere to the fullest revelation of Truth. Each individual work of any of the great arts—which are all branches of the same great art, the knowledge of Truth—is of greater magnificence than others in proportion as it reflects Truth in itself.

How difficult this is, and how constant and varied the striving after it, the whole history of art will show. Each age has its special features denoting its endeavour to give the fairest likeness of Truth; and these special characteristics belong to it and to no other age, making it the living art of its time. But in our time there has been a resuscitation of all the ages, as it were, and we cannot allow such to be a healthy state of things, or conducive to the production of living architecture.

Seeing, then, that the careful and scholarly reproduction of ancient manners does not suffice to produce an architecture interpreting the needs and aspirations of our time, the necessity arises of finding some other way in which we can achieve this result. Like mankind, architecture is emphatically progressive. And in the past we find that progress was made, not by returning again to ancient ways with the sole object of reproducing them, but by a steady development and extension of the knowledge gained by experience.

But in spite of this, some would say that the best method of advancing and improving our outlook is to break away entirely from all restraint arising from what has been achieved in the past, and for each architect to be as clever, ingenious, and curious as he can be. Though this is impossible, there is undoubtedly such a tendency among some architects. But we may dismiss it, from the evident want of cohesion which is sure to be the result, as likely to be of no benefit to anyone. Such a proceeding is bound to degenerate into the grossest commonplace, or the perpetration of utter foolishness. To be saved from this is the true necessity for the existence of "style" in architecture. We must find some surer ground on which to advance.

With more knowledge of what has been done in the past, we can see that one great and vitalising force in architecture was logical building, and this view of architectural progression is assuredly coming to the fore among architects, and being welcomed as a means of producing better and more living work to-day. Its acceptance never leads to the production of an entirely aimless

or barren building, nor of one devoid of thought of a right kind; and it opens up to the designer untold possibilities of beauty in form and order. As Mr. Lethaby points out, in a short time its principles developed Santa Sophia as a model of logical constructive design, and again and again in the history of building architectural triumphs have been the result of its application. The need for living architecture is felt. The necessity of applying a new and revivifying force to architecture has arisen. The application of ancient forms and details has but produced excellent and scholarly reproductions. With the experience gained, is it not time to study the right use of material, and to apply the *ancient principles of logical construction* and development of a design, in a bolder and more characteristic way?

But there is one warning which must be given. Do not proceed without knowledge. It is impossible to have too much knowledge of old architecture, for knowledge is power. It is because of this we must welcome our inheritance of the knowledge our fathers have found out for us, a knowledge to which all good recent building owes its beauty and its right to rank as architecture, and the possession of which is sure to express itself in our work, even if only hinted at in the structure, rendering it scholarly and cultured and curbing the imagination.

If on the score of art it is necessary to revitalise architecture, it is equally so of construction. We must not forget that architecture, besides being an art, is emphatically a science, and this vitalising power must be applied to both alike. Architecture contains both the art of adornment and expression and the science of construction and building; and these two aspects of living art are so indissolubly bound up together that it is impossible to sever them. They have, as it were, become one flesh. If we refer to ancient building it will be seen that no change took place in its history which along with it did not bring these two questions of logical construction and logical adornment. But it would appear nowadays that adornment has been divorced from construction, and such a state of things has not benefited the art of building, for adornment and expression have to a great extent been stationary and archæological, so that we find to-day that they are used in a most inconsequent manner, the result being extravagant waste and lavish show without either wealth or refinement.

Construction, however, thus divested of its helpmate, and calling itself engineering, has progressed by leaps and bounds and produced masterpieces which call forth the admiration of everyone for their ingenuity and boldness. But here they stop. They exist for the bodies of men, and are triumphs of will; but it is impossible that we can say they appeal at all to their souls and spirits. Construction and adornment thus

standing alone are like bachelor and spinster. It is only in their union that both will find the complement of the other and fulfil the functions of building in the highest and best way.

We have thus agreed that, in general, modern architecture requires a vitalising power if it is truly to represent the tendency of modern times, and that it is open to improvement in the welding together of adornment and construction. If this is not so, then is architecture in a truly parlous state. For no one who claims the name of artist should ever be completely satisfied with his work, however much trouble and care he takes over it. When this happens he has turned his back on progress and entered on the down grade.

Many of us have no doubt often asked ourselves the question, and each will have a theory to propound, as to how the architectural outlook is to be improved. I do not claim originality for the views I may put forward, but if they serve to remind us anew of points which are often overlooked in our work this Paper will not have been prepared in vain. Architecture is not drawing, but building; and we must bear in mind that to theorise about it will not improve it unless we put our theories to the test of tangible expression. I ask you, therefore, with this object in view, to look upon architecture as supremely logical building, and from this standpoint to sift your ideas with regard to the modern practice of it.

As may happen with any way of looking at a subject, it is possible to push matters too far; and it would seem that some architects who have embraced this view of architecture have already done so. There are some who, in their zeal to break away from the chains of the past, have eschewed mouldings, except of the most meagre kind. But this is surely absurd, leads to nothing, and reduces the architect to the endless repetition of a first production. A moulding is as a magician's wand in the hand of a skilful artist. As it exists from the most essential causes and fulfils the most necessary requirements, it is capable of most logical handling, and by its treatment effects can be produced upon the beholder which cannot be obtained by any other means. Surely, therefore, a moulding is one of the most useful pigments on an architect's palette. There are also those who, while they have grasped the fact that logical building exists, have not got so far as to see that it is diametrically opposed to absolutely illogical picturesqueness—a picturesqueness not the outcome of any necessary requirements, for which there is no constructional cause, and which does not arise from materials used.

Picturesqueness, although valuable, ought to be not the direct aim of the architecture of a building as it leaves the master's hand, but

a side issue, or the result of years of wear and tear and of history. Architecture is a finer thing than mere picturesqueness. One need only mention as examples the use of gabled and hipped roofs in the same building, for no reason at all than this desire to be picturesque; the employment on one building of a vast number of materials, such as stone, rubble, brick, half-timbering, roughcast, plaster, tile-hanging, slate-hanging, weather-boarding; and the use of plain verges, barge-boards and copings to gables, rafter feet, plaster soffits, cornices and parapets to eaves. There are to be seen towers on unimportant buildings which are not wanted for purposes of water supply, or as land-marks, for prospect or defence, or as clock-towers or otherwise; and sometimes a portcullis, which will go neither up nor down, and which is neither useful nor ornamental. Again, one frequently sees windows thrown about a building without due regard to order or arrangement, and executed in leaded lights and stone dressings, leaded lights and wood frames, sash windows, mullioned windows, transomed windows, plate-glass windows throughout or in the bottom part only, with small squares of coloured glass in lead or wood at the top, just where light is wanted or there is possibly some sky to be seen—all of every possible shape and size, and all in a single house. Such things are frequently met with, and as frequently admired; but for all that they are bad. If variations of such things are used in a building they must fulfil a requirement in the best way, be backed up by sound constructional necessity, and have an all-sufficient architectural reason arising from architectural logic, which is something more than merely good taste. When we come to the question of clothing a modern building in the remnants of an ancient architectural garb—for this is what it amounts to—I do not think anybody can be found, after careful thought, to claim such a state of things as truly living architecture. The raven adorned with the tail and feathers of a peacock only raised the jeers of the other birds.

There are many other points in modern architecture which can be raised to show its illogical condition. There is the question of the concurrent use of all sorts of manners, not only in one century, but by one and the same man. If architecture was living, this ought not to be the case. In the prime of the great architectural periods of the past work was produced which could not possibly have been different in the main ideas and principles from the form it took. But to-day the same architect will produce a Gothic church, a Renaissance town-hall, with an alternative design on the same plan in Gothic, a Classic bank, a house in any English or foreign manner, and a pavilion in any outlandish style desired. Such a state of things is not consonant with logical building. When Classic temples

were built, Classic houses were built; when Gothic churches, Gothic houses—everything Gothic.

The question of style is equally one of sympathies and feelings, the outward expression of man's inner thoughts at any one period, moulded and welded by the influence of history and the tools and materials he wrought with, as it is of forms and features. There is a further point which arises in connection with this, and that is that some architects would appear to require work which can only be described as rough-and-ready. This is due to an exaggerated conception of what is called texture, and a distorted view of draughtsmanship. Nowadays, when there is no excuse for any lack of excellence owing to indifferent or bad machinery, it is surely detrimental to the interests of both art and labour to require an excellence of finish which is certainly not the best attainable. I am referring only to work which on the face of it requires the nicest regularity possible, and not to the carving of repeated forms or other ornament. In the latter case the effect is tame and illogical, if each repetition is an exact replica of the previous one down to the minutest particular. It is decidedly suitable to be able to say on looking at such work: "This is hand done; it is not all hard, smooth, or equal, and the man enjoyed doing it, for he has slightly varied the forms of each block of ornament. He has used his head and fancy in inventing varieties and in the introduction of quaint and curious devices, and has not merely acted as a machine." But I maintain that in modern work it is an affectation and illogical to require irregularities in such things as call for most careful workmanship.

The sham-old does not deceive anybody, nor does it impress anybody with the effect its designer wanted to produce. If it is at all sensible the utmost that can be said for it is, "It looks *almost* like old work." What we ought to be able to say about a building is not this, but "I like this building, because the man who did it knows what he is about; he knows about old work, but did not choose to copy it. He has not put forth all his knowledge, but has a lot of reserved strength. It is a modern building for modern men; no other time than the present could have produced it. There is nothing here the building could part with except to lose by it. I know its purpose without being told. What picturesqueness it has is the direct result of plan and material, and arrived at without any straining. The building looks to me like an honest effort to meet requirements directly, to use material rightly, to construct in it truthfully, and to adorn it suitably. There is a good deal of thought in this building of the right sort; it seems to me I should have done it in the same way, and indeed it is difficult to see what other way could be more suitable, as the building hangs together like a well-thought-

out argument, and is perfectly satisfactory as a logical building."

A building about which this could be said would certainly be far on the road to be a fine thing, and there is nothing here beyond that which any educated man ought to be able to say of any building. But to how many modern buildings, when we look well at them, can we apply these remarks? Certainly not to many; and it is only fair to say that, when we inquire into the causes which tend to failure or success, the influences of the former far outweigh the latter, and the marvel is that such good work has been produced. A few of these causes may be briefly mentioned.

As tending to failure, the first is perhaps the lack of interest in architecture among the general public, and, when they do take cognisance of work, the demand that is made for replicas of ancient ways. But in old days the interest of the public was a great incentive to architectural development, and achievements in art were welcomed with great acclamation. To-day, could any of our poets—whether he be a Court poet or otherwise—write as Paul the Silentary did about Santa Sophia, or can we imagine a triumph of the painter's art carried in procession through the streets, as Cimabue's Madonna was at Florence? But we need not go abroad for instances; there are records in our own country of great and intense enthusiasm felt in the achievements of art, and what is not written down in parchment is preserved in the actual buildings themselves.

It is sometimes said that the English people are not an artistic race—foreign nations are praised for their artistic qualities and the Englishman's work accounted unworthy of note. I was glad to see that the Professor of Sculpture at the Royal Academy, in his recent lectures on Italian sculptors, drew attention to the fact that we in England also had had native sculptors of surpassing excellence, and he cited the effigies in the Warwick Chantry as specially worthy of note. As it is in sculpture, so it is in the other branches of art, and of architecture. The country teems with structures, from the humblest cottage to the grandest cathedral, which are priceless heirlooms, telling of a love in our ancestors of good architecture for its own sake by people naturally artistic.

With such evidence before us we can safely say the English were, until comparatively recently, an artistic race—and that the quality was as widely spread as among other nations. If the English people are not so now it is because we live in days of trade and not of labour. But it must be added that there has been an immense advance in the appreciation of the beautiful by the public, and that this is making itself felt in the demand for architecture. It remains for architects to supply the demand, as

they have done in the past. The existence of such heirlooms as the old ecclesiastical and civil architecture of England is chiefly useful in telling us what has been—and what ought to be to-day—but not to lay down the law of *how* it is to be. To study antiquity so as to obtain a knowledge of the history and achievements of mankind is right, but it is wrong to do so with the object of repeating those achievements without their history. The archæological school has done this. It cannot thus be said to have produced a modern architecture expressive of the real life and motion of the nineteenth and twentieth centuries. Its work has only an historical value, showing in us a sense of the greatness of the past, and admiration of its buildings; and it is a confession, tantamount to declaring that our forefathers were better, more able, and more artistic than we are.

This being so, it can be said with justice that the archæological school has been detrimental to the advance of architecture in the way of originating a fresh style or manner; but it has been of great value in bringing before us the character of architecture as noble building. So that archæological knowledge (and the more of it attainable the better if used as a stepping stone to further achievements, which, while expressive of great scholarship, are so attuned to our time that no other age could have produced them) is to be welcomed and striven for by all true architects.

Though there is intense activity in the building world, great opportunities for buildings of the largest magnitude and devoted to the highest purposes are rare, and when they do occur are not always open to architects; and this fact must be put down as one cause of failure of high achievement—for it is undoubtedly true that the demand creates the supply. Yet at the same time, to make a success of a big thing needs either a tremendous amount of preparatory exercise on the part of one man, or the existence of traditional building methods. But owing to the progress of civilisation at home, and in the colonies, there have been such opportunities within this century, in numbers beyond the average. These have called forth big buildings, but is there as a rule such a character about them that we can class them as really great?

Truro Cathedral was one opportunity, calling for the display of the rarest architectural skill. No one will question that a fine building has been produced, as perfect a reproduction as possible, but, it must be confessed, one decidedly out of touch with the sympathies, the needs, and the aspirations of modern life, and one which as a modern building is absolutely illogical. Such a building might well express the ideals and the work of the English Church in the Middle Ages, but history shows that, though the Church in essence remains one, its outward expression adapts itself to the needs of the time.

Again, Sir Charles Barry has given us a great

building in the new Palace of Westminster, the greatness of which is not dependent on its architectural details, but on the sentiment pervading the whole structure, and the impression the building makes is largely aided by its size, position, surroundings, and uses. If we analyse its architectural worth we must admire the grandeur of its scheme of plan, but from the standpoint of logical architecture we find it to run counter to our principles and convictions. Our legislators govern modern England, and when a new palace is required for their accommodation it should be frankly a modern structure, and not one likely to deceive as to its age. Adjacent to this is a building about which a great deal has been written and said, and much more might be added without exhausting its value. For robustness and energy, New Scotland Yard is perhaps unrivalled in modern architecture.

It is interesting to note, about these three buildings, one point in their architectural treatment. The Church looks back to a time when it was the supreme teacher and leader of men; the State to the time when it gained its power and expanded its influence; and lastly there is the civil power, free and young, but still requiring the nursing and restraint of law and order to guide it aright.

This, however, is not enough: these three are real forces at work at the present day, just as real as ever before; so should they be expressed, not by the use of a dead mannerism, based on ancient work, but by means of living architecture.

There is a further building now erecting, to be put to the highest uses and of the greatest magnitude. This is also an example of great scholarly knowledge, but it appeals to all irresistibly by the directness of its construction and the logic that pervades its whole frame from end to end—perhaps because it is built after that manner which Mr. Lethaby describes as “the supremely logical building art.” This building is full of promise, and even now in its incomplete state is assuredly one of the most expressive and purposeful buildings we possess. The new Romanist Cathedral at Westminster may fitly be placed as the culminating work of nineteenth-century archæological architecture in England, and not only this, but as that building which strikes the keynote for further progress in the century which has just opened.

Of the buildings above mentioned the churches consist mainly of one great hall, and exist for one great purpose, but the others have many rooms, and all the departments of a large social organisation are housed in one edifice, and the various cogwheels of this huge machinery have to work without friction. Here is a further cause which has hampered the development of modern architecture. This is the complexity of modern life and requirements arising from an elaborate civilisation. The simpler the use of the building, and

the less complex the accommodation required, the more easily is a logical edifice evolved and the more hope is there of producing an harmonious effect; but when the uses and accommodation required become complicated and manifold, so much the more is the difficulty of the logical solution of the problem increased.

Study the plans lately published for the rebuilding of the Old Bailey, and note the exceeding difficulty of the problems to be solved, which included the logical solution of questions of sentiment, dignity, convenience, separation of various departments, supply of definite amount of accommodation, privacy, necessity, safety, health, site, space, light and sound, and a host of other architectural questions. Could anything be more complex? These same questions apply to every building to a greater or less extent, and the solution of them leaves but little time and room for the consideration of logical architectural expression.

There is another point which is undoubtedly largely responsible for the failure of high achievement, and this is the withdrawal of the architect from personal contact with his work. Such a thing has been brought about among other causes by the development of the present contract system, requiring the settlement of all questions connected with the building before a single stone is laid, which renders an architect's work entirely an effort of brain power as far as the actual design is concerned, and does away with all chance of development during the work.

Other causes which have led to this fatal result are aggressive by-laws and the competition system.* The great advance in the art of draughtsmanship, on the excellence of which many designs now largely depend for their value,—for it is not always by any means those things which look the prettiest when nicely drawn to scale that are the finest in execution—has also considerably helped this state of affairs; as well as the ridiculously low rate at which an architect is remunerated, necessitating his having a number of works proceeding at one and the same time, to none of which can he give the full attention which the old men bestowed on the works of their hands. We are led to understand that in ancient days the architect was the chief artificer at the building he was erecting, but as such a thing exists no more it is wonderful that so much good work is produced, and not at all to be unexpected that we meet with many caricatures and unsuccessful efforts.

A further consideration which is bound to lead to the falling short of the highest achievement is the view that some architects take of their buildings. They apparently regard their works as a means of self-revelation—a sort of mirror in

which they can reflect their own idiosyncrasies, and a splendid medium for advertisement. Thus they talk a great deal about the personality of the architect; but on looking at old work it does not seem that the highest achievements have been attained by any efforts to express the personality of their architects, but by the complete suppression of the man in his work, the strenuous endeavour to reveal principles and obey laws, to build logically, and to express great and abiding truths through the medium of prosaic building materials. The architect of any of the masterpieces of ancient building does not speak to posterity of or for himself alone, but is one of the voices of his time as surely as are his contemporary poets and seers.

But, although these points and many others make a great army of opposition to any advance in architecture, the case is not entirely hopeless, and there certainly are many things which aid in restoring the balance. The first thing is that we live in the twentieth century—an age rich in many things which ought to produce a vital and living architecture. As the latest, it inherits all previous achievements, and each year adds new riches to its store. It is rich in knowledge of the past; archaeological research has never before produced such stimulating discoveries, unravelled so many knotty questions which relate to the scope of architecture and demonstrate the reason of the forms it has assumed, or told us so much about the lives and customs of ancient peoples. It is rich in examples of what has been done, and in the ways in which our forefathers solved problems, assimilated current thought into architecture, and taught lessons through it.

It must also be remembered that we to-day have the benefit of having the prevailing views on architecture, and the best modern and ancient work brought before us by means of photography, by exclusively architectural publications, and by increased facilities for travelling—things which were unknown in the days of bygone architectural triumphs. Our buildings are put up for quite as great and as varied purposes as in old days, so that the area for expression is as large. We possess materials which the ancients never dreamed of. So much has the means of transit improved, that England has become the storehouse and market for all the products of the world, and this is now so well established that there is not the same force to-day as there used to be in the custom of using the native material of a place for its buildings. Science, again, has to some extent discovered the elixir of life—and its knowledge is open for all to use; it has given us almost miraculous machinery, and it has benefited every branch of industry.

There is no reason to consider that architecture suffers to-day because money cannot be found for its erection. As for labour, it is to-day as plenti-

* See Paper by Mr. J. J. Stevenson on "Difficulties and Hindrances in Producing Good Modern Architecture," read at the Royal Institute on the 21st January 1901.

ful as formerly, perhaps more so in proportion when we take into consideration the improvement in machinery. It is quite as skilled, and only requires education and interest in its work to be rid of a slipshod and slapdash tendency which is not entirely the fault of the worker. But labour to-day is free, not enslaved, and this ought to be its crowning privilege, and where it is rightly employed it produces as good workmanship as in ancient times.

As for inventive genius, this has nearly turned the world upside down with its activity; and it is placed at the architect's service to produce new materials and new methods to meet all purposes. When we come to the field of thought, we must admit that to-day thought is quite as rich and deep as formerly, and more active; and in the social world the ideal of the brotherhood of all men was never before so firmly established in the minds of the leaders of men, or produced such seething emotions among the toilers.

In the religious world there never was such striving to understand the deep secrets of Revealed Truth, such a desire to complete the benefits which are to accrue to mankind from Christianity, or such intense activity. All these things should affect and stir the soul of architecture down to its very depths, causing it to be the mother of children which for beauty, grace, order, suitability to purpose, constructive skill, expression, and all that goes to make living architecture, are the logical outcome of nineteen centuries of strenuous endeavour.

After a hundred years of revivals and the reproducing of ancient manners, we stand within the threshold of the twentieth century; and the architecture of the portal is a revised version of a three-hundred-year-old English edition of an Italian revival of the Roman manner of building, adorned with ornaments borrowed from Greek sources, once the outcome of perfectly logical constructive methods, but now sadly deprived of their original purity.

This present condition cannot be considered satisfactory as a stage of logical advancement; the palpable gaps in the argument are filled up with entirely different methods of building. The question therefore arises, *Are we to go on like this—building illogically?* Each one must answer this in his work according to his ability, and as circumstances allow. But may it not be suggested that those of us who wish to advance will do so best by taking as our guide a strong determination to build logically?

To attempt an elaborate dissection of the application of this principle of logic to building is beyond the limits of my Paper: my object has been to draw your attention to the existence of such a thing, to point out that it is necessary to grasp its meaning if we are to make any advance at all, and to invite each one to the consideration of the matter. It will suffice if we ask ourselves,

"What will be the general effect on current architecture of the principle of logical building?" Undoubtedly it will be to purify it—to strive to do away with what has been called "architectural Billingsgate" which meets us at every turn; and indeed it is sadly in need of such a process.

Some may argue that logical building has a tendency to plainness, to the work being the merest construction necessary to meet necessities. Even if this were so—but it is a very difficult point to prove—far better is simple building which fulfils necessities in the best way than an elaborate one which is altogether unpractical. The latter case is as if a painter completed his picture while leaving his principal figure all out of drawing. But it would seem that the question of logical building does not in any way attack the elaborateness of the structure, but only its unreasonable elaborateness.

The great point is that the adornment should be suitable to the nature of the building, and serve only to enhance the expression of its purpose, and the effect intended to be produced, and that it should be part and parcel of the construction. In a living architecture it should not be the reproduction of previous achievements, but spontaneous, and the offspring of all the circumstances of its time. This cannot be denied; but to-day we find endless reproductions of ancient forms with but little attempt to produce, without affectation, anything that contains a promise of better things.

Taking logical building as our guide, we shall find a succession of points in the evolution of our structures to which we can apply it, as a gardener does a pruning knife to his fruit trees, with the object of rendering them not barren, but more fruitful in the future, and we shall find that our weapon of logic may be applied, with benefit, to almost every particular in the design, from the largest to the smallest, from the plan to the least fitting. The result will be that when we look at a work of architecture we shall be struck by its truth, its development from the requirements will be perfectly clear and satisfactory, and it will meet them in the most common-sense and direct way. The building will show the principle of its construction, or if this is veiled it will be frankly veiled by a covering which in no way falsifies the true construction; every member of the composition will be plainly accounted for and have good reason for being there; the form of each will be governed by its construction, position, material, and the work it has to do. There will be no unnecessary or superfluous architectural features; no false character imparted to it by any tricks or shams; its use of materials will be perfectly honest and satisfactory to the eye and reason, and not contrary to the nature of the substance, and will not attempt apparent impossibilities. There will be no undue waste of material, the amount of this being

governed by the work to be done, by the nature and strength of the material itself, and the principles of good proportion. The ornament will be no more than is required by the class of work; it will have the appearance of being called for by the surroundings, and necessary to the effect; it will never overbalance the architectural lines, or appear a superfluous addition; it will reveal the nature of the material in which it is executed, and be suitable in form to it. The whole building will express the purpose for which it is built, and possess the character requisite to such purpose.

These points may be regarded as the foundations of good logical building. Judging from past achievements and methods, along these lines lies advancement. To judge from outward results, much work seems to have been done without consideration of these points or their application. But a properly trained architect should be able to apply these principles almost unconsciously, and be incapable of running counter to their directions.

It is therefore an important point in the training of an architect that he should be taught to view architecture from the standpoint of logical building. How this is to be done is open to question; but in addition to the customary training, one very good exercise is the analysing of any building, and the working out of the whys and wherefores of its various points. Untold good would come from this, and the student would be taught to see aright, which is one great necessity towards the successful practice of architecture.

It is of the utmost importance that an architect should be able to look at architecture in the right way, not merely as pretty building, but as the result of an intellectual effort on the part of the designer—things being there not because carving or decoration might be asked for, but because these things were necessary to the logical ex-

pression of purpose, and because they supplied a link in the chain of the design.

This training of men to see architecture properly, and to grasp the logical reasons existing for the design of a building, is often sadly neglected in early days, being put off till there is no time from press of business to enter upon such elaborate dissection of one's own work. Still, there is no place like a building in progress on which to learn the art of logical building, and the architect should be there as often as possible.

We stand at the commencement of a new century: with what ideas are we about to enter upon the unrolling of its years? The century which has gone from us has explored every diversity of building method, which, until its beginning, it had taken the whole history of mankind to produce. The net result is that great knowledge has been acquired and experience gained. Architecture has been raised to a high place again; people are more observant of it, and more critical, and look for more character in our work. But what is that character to be? Are architects alone of all the brain thinkers and heart workers who press through the gates of the twentieth century, with eagerness to grasp what is in store for them, to find naught save a resuscitated corpse which moves in death-like fashion to fulfil the functions required of it to-day? Or are they to find that architecture once again possesses a vital principle which renders it the joyful mother of all the arts and a source of inspiration to the beholder? By this it once more becomes great—a teaching power, an efficient historian, a lever for good, and a mirror of Eternal Verities. These are its aims, these are its functions, but they can only be realised when architects and the public place this in a foremost position among their views of architecture—that it is supremely logical building.



OLD AND NEW ENGLISH ARCHITECTURE: A RETROSPECT AND A
SUGGESTION. By ARTHUR S. FLOWER [A.], M.A., F.S.A.

Read before the Liverpool Architectural Society, 15th April 1901.

ONCE upon a time we had in this country a true English architecture. This much may be said without much risk of controversy. When it arose, and when it came to an end, are questions which, to settle them exactly, involve debate, and I do not propose to enter upon them now. But everyone is agreed that some time ago it ceased to live, wherefore perhaps I may be allowed, for convenience, to call it the Old English Architecture, even though the term be not scientifically accurate. We all agree further in recognising that this first age was followed by a long period, extending to our own days, which, however much some of its works have been admired, no one has ventured to call the age of the New English Architecture. And now there is a general feeling abroad that we are crossing the threshold of a third age; one likely to be widely different from either of the former ones.

So much has been said about this new architecture that it seems presumptuous to add anything to all that we have heard already. But just now, while we are hearing so much about turning over new leaves in all directions, one may perhaps be excused for speculating, however idly, as to what shape our architectural new leaf may take. Will it only be a carrying-on, with a difference, of the methods of the last three centuries, or will it be the beginning of a New English architecture? The subject is so large that there seems still a chance that anyone may light upon some aspect of it which is not quite familiar, albeit neither entirely new nor of much importance.

The particular view that I wish to dwell on is this, the desirability of the work of the coming age being not only new but also being English. I do not think that this is such a platitude as it may seem. During this last period, although from time to time there has been architecture in England, very little of it has been *English* architecture. But I make bold to think that, if the new architecture is to have the solidity of a real style, it must be plainly and truly English. What does the word "English" mean to us? Is there one architect in a hundred, is there indeed any architect now living (except, of course, Mr. Bodley and a handful of men of like views) who consistently works on purely English lines? Is there a man among the younger generation who cares a straw whether his work has any English quality about it? Our present-day designs are all frankly cosmopolitan. Many of them may be clever, picturesque, of great artistic merit even, according to certain arbitrary standards of foreign origin; but, whatever they are, they are not national, and it is not going beyond the truth to assert that we are just now less national in our work than the architects of any other country. This is the reason why I fear all speculation about a new English architecture may well be called idle. The spell of Rome is still too strong over us all; here and there a few chafe and struggle, but for the most part we hug our chains complacently. Everyone seems now to be

entirely of a mind with Clough when he wrote, though so long ago as in 1849, those well-known lines :—

“Come, leave your Gothic worn-out story,
San Giorgio and the Redentore ;
I from no building, gay or solemn,
Can spare the shapely Grecian column.
’Tis not, these centuries four, for nought
Our European world of thought
Hath made familiar to its home
The classic mind of Greece and Rome ;
In all new work that would look forth
To more than antiquarian worth
Palladio’s pediments and bases,
Or something such, will find their places.”

There is an intellectual flourish and assumption of superiority about this which is highly captivating, though we poor Goths have some consolation in remembering that another poet wrote :—

“There was a bad poet called Clough,
Whom his friends found it useless to puff ;
For the public, though dull,
Has not quite such a skull
As belongs to believers in Clough !”

I am afraid, though, that in actual fact we shall go on decking out all our buildings in picked-up Roman trappings to the end of the chapter. Would that Clough’s cherished Palladianisms were by this time all quite worn out and unusable ! But they are still so easy to get—so cheap and handy—all repaired and done up ready for use by French and Italian artists, and perhaps made more attractive by quaint additions made in Spain or Low Germany ! So we furbish them up with a little home-made varnish, and call the result “English Renaissance Architecture”—save the mark—“*English !*” You may grow a bamboo or a banana in English soil, but that does not make it an English tree. A Wordsworth or a Tennyson may write Latin verses, but, however perfect in composition, they are not English poetry.

It is true enough that any day you may hear people speaking of “English Renaissance architecture” ; but probably they have never troubled themselves to think of the sheer impossibility of a “renaissance”—a springing-up again—from a root which never grew in this country. We have, indeed, seen an enormous quantity of work in the Renaissance style—that is to say, in the style of the legitimate national architecture of Italy—done in this country during the last few centuries. But all this, if it must be called Renaissance at all, and not simply Palladian, Franco-Italian, Belgo-Italian, or whatever particular form the thing may take, cannot properly be described as any kind of English architecture, but only as Renaissance architecture done in England. It has never become naturalised, and never can be ; its root is still in the land of its birth.

However, as a *Times* correspondent wrote a few days ago, when describing the sumptuous decoration of a celebrated yacht, there is another blessed word besides “Mesopotamia.” Yes, you assure the English public that what you offer them is “Renaissance,” and they are satisfied that they are paying for the most “up-to-date” thing in art. What more could anybody want ? This sort of thing wins all the prizes, the competitions, the general admiration and notoriety. It is the only form of design thought admissible by our Government and our municipalities for our streets, our public buildings, our monuments. If not the only, it is certainly the principal road to distinction in our national academy of arts. One cannot, of course, expect the average man to be so quixotic as to refrain from doing what is so clearly profitable and yet—as one cannot endorse Ruskin’s denunciations of its

innate wickedness—in no way morally wrong; but it is not too much to ask of everyone who professes a regard for our native tongue that he should at least forbear from calling these foreign wares by the name of English.

A good many of us in our hearts, I believe, would like the work of the future to have a thoroughly national stamp; but we are all horribly afraid of being sneered at by superior persons as poor, benighted Gothic revivalists—what more damning criticism can be written now about a design than this?—or of perhaps even being taken for lunatics with a craze for inventing a brand-new style. So, after all, we settle down to the safe course of concocting designs from foreign pattern-books. I doubt if anyone finds much real pleasure in pursuing such a course. To me, at least, it looks unutterably dreary, and, what is even worse, does not seem to be leading to anything better. One could cheerfully put up with a good deal of present dulness if only sure one was going on in the right direction, and was doing something to pave the way for our successors. But what we are doing now—practically standing still in admiration of some clever juggling (the only word which seems to fit some of our contemporary masterpieces), with intent to copy, if we can, the selfsame tricks—this, I must repeat, leads nowhere.

Let us now imagine, though only as a passing fancy, that we were set to shape a national architecture, fit to be used for every kind of building, and made altogether out of home-grown stuff. What should we have to work upon? From the bewildering mass of lumber around us what should we reject? Good art is mainly an affair of cutting away. The material abounds everywhere. No one need go afield seeking it: only tools and taste are wanted to bring it out. So, taking it for granted that we were wishing to purify our art from its cosmopolitan cast, all foreign fashions obviously imported in a manufactured state would have to be thrown out. It would, of course, not be possible to shut out all suggestions from abroad, but they should be closely examined as to place of origin, and only admitted in such forms that they could be easily and harmlessly assimilated—in short, coming singly as friends, and not as rapacious, invading hosts.

This would have to be the rule for the future, and to get a good start we should have to apply it retrospectively. To carry this out we should have to understand something of the nature and history of the Old English architecture, but—and it is necessary to be clear on this point—without in the least degree confusing the gaining of such knowledge with any idea of actually reviving what is dead beyond all question, nor—and this is equally important—with any expectation of producing something looking just the same.

Why then, after all, should we any more study the old work? Firstly, I think, because we cannot make bricks without straw—we must have something to start with, and the surest way of getting better architecture is always by improving upon something already existing. Secondly, because the work of our own forefathers, done in our own towns, by men bearing the same names and living under the same institutions as ourselves, has a first claim of natural piety upon us, and must be the best guide we can have in casting out what is extraneous. Thirdly, because so much of this old work is universally admired, that on abstract grounds alone, apart from all sentiment, it seems worth while looking closely into its excellences: to see if, while some of them may be due to temporary causes which cannot be expected to recur, others may not be traced to more persistent influences, perhaps even still capable of animating new phases of architecture.

What, then, of the Gothic revival of the nineteenth century, which almost everyone now calls a failure? Even a sympathiser with many of its aims must admit that it has lost all hold on architects, if not on all sections of the public. Why did it fail? There is no need to explain why that great part of it which was mere copying, without enthusiasm and without

much intelligence, by the ruck of men who were copying Greek the day before, and now Palladian the day after, could not do anything else. Imitation of this sort, even carried to the highest point, perishes in the doing, and leaves nothing behind. The man who changes his architectural principles from day to day, like a shopman the goods in his window, to suit the fashion, may achieve a good deal of personal success—as may also the shopman; but it would be just as hopeless to look for soul in the wares of the one as in the designs of the other.

But what of the men who put their whole heart into the endeavour to work progressively, by the guidance of what they called true Gothic principles? Among them were some who are generally allowed to have been great men, and few would deny to many of their works the possession of fine qualities. Yet we know that the principles in which they trusted have proved sadly wanting in vitality. One hardly dares to criticise these giants compared with ourselves; but the facts speak plain. They failed to carry the nation with them; their influence has waned, and almost vanished; a great part of their work was done for nought.

There are plenty of people now to tell us that the reason for this is the positive superiority of Italian, or Roman, over English art. I cannot admit this to be true. There are other causes to account for the failure of the Gothic revival, and one worth considering is this—the attempt generally made, even while striving to avoid any literal copying, to produce something which should in effect closely resemble the old work. In pursuit of this ideal any striking features found in old buildings, however accidental and unessential as elements of their style, were eagerly seized upon; minute study of the surface of things was expected by itself to afford inspiration for the future. Therefore no real New Gothic, or New English architecture, with an independent life of its own, was ever started; although a great deal was very cleverly done in reproduction of the general appearance of the Old English work in a scenic manner. There is the weak point. Scenic architecture, though it may do to please the public, can never be living art. Renaissance architecture, as carried on in England, is of course by its conditions essentially scenic, and nineteenth-century Gothic, taken in the mass, has the same defect. In both cases the aim is to arrange a number of fixed ingredients so as to produce an image of something known beforehand. The process gives ample scope for the exercise of taste, learning, and ingenuity—all that I freely admit, and the mental fascination of it—but there is nothing about it at all akin to natural evolution.

Our nineteenth-century Gothicists have either tried to work simply in the Gothic spirit, as they have described it—that is to say, with a vague and general idea of the Gothic style as a whole—or, when the desirability of more unity of effect has been grasped, they have tried to gain it by such crude methods as taking the work of a whole century as a model. The first system, that of throwing together fragments gathered from all the different phases of the style, was employed in the early days of the Revival from pure ignorance, and has been purposely reverted to in recent times, in the notion that it is less pedantic and more artistic than the other plan. But it has entirely failed either to produce good individual works or to form a point of departure for a new style. The second system, which at least professed to recognise the artistic value of congruity, gave more promise of success. In certain hands it has produced some very good work; all the successes of the Revival belong to it. But it has failed as regards general results, through an unhappy confusion, not only as regards the right ends of study of old work, but even as regards the means.

As to wrong ends, an extreme case is illustrated in the following ingenuous passage:—
“Nearly the whole of the mediæval woodwork which we have remaining is of the Perpendicular style, and this material appears to be peculiarly adapted for it. It may reasonably be doubted whether the modern attempts to revive the woodwork of the Norman and Early English styles are not altogether a mistake. Nothing can well exceed the richness and beauty of the

Perpendicular woodwork, and *it is easy to imagine that a church of the twelfth or thirteenth century has been newly furnished in the fifteenth or sixteenth.*" (The italics are mine.) But why should it be necessary, as is here taken for granted, that woodwork, or any other kind of work, should be supposed to have been made in another century from that in which it is made? Why should it be supposed to have been made a year before its actual date? The notion, when stripped bare, looks foolish enough, but in one form or other it still rules the minds of most patrons of architecture.

A vast amount of power has been wasted in the barren task of attempting to repeat examples of some particular period, including all the most trivial details, accidents of a day which can have no meaning, often no beauty even, for a succeeding generation. And yet the greater part of the work done under these impulses has failed even in its own narrow aims. Very little of it is really like its prototypes, or has achieved the harmonious effect which may favourably distinguish even a borrowed design. Revived English architecture, indeed, compares badly, as a rule, in the qualities of unity and repose, with revived Greek or Roman. We must not, however, jump to the conclusion that these qualities belong more to one style than to another; the difference is due to the care used in the one case as to following models closely similar in character, and the absence of it in the other. An ordinary man is safe enough while he sticks to one of the Classic orders at a time, but the same man trying to design in what he has been absurdly taught to call the thirteenth, fourteenth, or fifteenth century style is bound to come to grief. The reason for his failure is simple enough. There is no such thing as a style, or subdivision of the Gothic style, by whatever name it may be called, corresponding exactly, or indeed even approximately, to each of these centuries. Several popular writers on architecture, mostly amateurs, have made us familiar with the beautifully symmetrical theory that each century had a separate style of its own, beginning with the century and passing off imperceptibly, by a gradual change occupying the last quarter of each century, into the style of the next. Nothing has done so much to make good modern Gothic design difficult, if not impossible, as this superstition. It has come to be believed that everything belonging to the same century must therefore have the same artistic character. At least, this seems to be taken for granted when we see people satisfied that all and any suggestions taken at random from old work will be sure, if they happen to date from the same century, to agree harmoniously in one design. Do not architects still sometimes look out for, say, thirteenth-century details, and then, having fished them up from various sources, throw them together, just as they happen to come? Do not we still read of the opening of new churches "designed," the report says, "by So-and-so in the style of the fourteenth century"? What would the same man say if you asked him to design you something in the Ionian-Doric-Corinthian style? He would treat it as a bad joke. And yet the putting of a Doric entablature on Corinthian columns is a trifling incongruity compared with the painful blunders, in point of taste, constantly committed even by exponents of what is called correct archæological Gothic. The fact is that during the limits of the fourteenth century three distinct, separate and mutually incompatible styles, or manners of design, were successively in vogue. (It would be better to call all such sub-styles, or divisions of a great style, "manners" rather than, as is commonly done, "styles," to avoid confusion between a style as a whole and its varieties.)

Until we get a clear conception of the irreconcilable divergences in artistic method which often parted different periods of the same century, it is impossible to get at the reason, though we may be conscious of the fact, of the imitative modern Gothic being, even in its own sphere, so rarely, and then only moderately, successful. A modern architect wanting a mediæval design and trying to follow the manner of any particular century of the past is indeed leaning

on a broken reed. Trusting alone to general similarity of dates, he is continually being led astray; whereas, if he would instead try to discover the artistic motives underlying the old work, he might be in a fair way to attain his end.

But such a result would, after all, be only a small and trifling part of the gain that might follow from a fuller understanding of the nature of Old English architecture. So far we have, as it were, studied its anatomy only, and have neglected its physiology. If we had a knowledge of the active processes which made up the life of the old architecture at all comparable to that which we have of its scattered bones; if we could trace the working of the influences which produced these remains with anything like the completeness with which we note and record their forms; then, perhaps, the modern architect might find what is needed to give life to his designs. In these ancient but perennial sources he might discover true inspiration, which would carry him on freely and naturally, without the slightest imitative taint. In our present hesitating, wavering state, while we are catching at every chance feather of a new fashion, some sound ideas for our work, some principles like those which have led to success, and may lead to it again, seem especially to be desired.

In spite of all the attention given to our old buildings, little has actually been done in the way of determining the essential qualities underlying their superficial characters. The subject of design in Gothic architecture has, indeed, been handled by several able and well-qualified writers, whose names I need not rehearse; but it is surely no reproach to them to say that, so far from having exhausted the ground, they have as yet only cleared and prepared it, and that all the solid results that may come from their researches have yet to be gathered in. But it seems to me that a general advance in architecture would be greatly furthered if we could but recognise that the wisest course is to submit ourselves to the guidance of the same influences as governed our forefathers, and to search among their works till we find out their true sources of power and beauty.

One great difficulty in this process is, of course, the contrast between the isolation and mental limitations of the Middle Ages and our own immensely extended knowledge. Uniformity in ideas, such as then existed, has been for some centuries, and will be for as long as we can forecast, impossible. From the days of Queen Elizabeth downwards, and never more truly than at present, we may say with Prince Hal: "We are now of all humours, that have showed themselves humours, since the old days of goodman Adam, to the pupil age of this present twelve o'clock at midnight." Is it too fanciful to suggest that the stages of mental change which one man now passes through in an ordinary lifetime successively characterised the mind of the whole nation for the space of a generation or two during the Middle Ages? And also, further, that whereas formerly the whole people may be considered to have been for the time moulded more or less on one pattern, nowadays we consist of a more diverse gathering of individuals of various types, each of whom, in his own special cast of mind, resembles the prevailing character of some particular epoch of the past?

This idea may be better understood if we look back, even with a cursory view, at the way in which the national mind has expressed itself in architecture. We can pretty easily realise how, when the earliest English, or Anglo-Saxon, builders set to work on monumental architecture, they were like young children, copying as nearly as they could, but in bungling and unintelligent fashion, the works of their elders. To build *more Romano* was their only ideal, for though the Romans were not their ancestors in blood they were the only great builders whom they knew, and they looked up to them in wondering admiration. A good deal of the child nature also belongs to the work of the Normans, but they built like strong, independent boys past the docile, imitative age. They had distinct ideas of their own. Their tastes were healthy but greedy; quantity was everything with them. Delicacy,

softness, grace, they recked nothing of; crudity and garishness did not repel them. They were always in a vehement hurry; they knew and cared little about making adequate preparations for their enterprises; all they wanted was to have everything big and grand-looking, even though it might be very clumsily or faultily done. They were in a rough and angular stage of life, not yet licked into shape, nor their corners rounded off by education and travel. The common notion that Norman architecture has a definite and prevailing quality of roundness is inaccurate. The single fact of the openings in the walls being usually formed with semicircular heads does not overcome the still stronger impression of abrupt squareness given by many of the most important features and of more acute angularity by others. As actually seen in perspective, Norman work has by no means a genuinely round character throughout; a character which seems to have been attributed to it from the appearance of certain portions of it drawn in geometrical elevation. It would be more correct to say that Norman design has no proper geometrical character at all, but is a thing of mixed and uncertain motives, tentative throughout, and running from one extreme to the other of the architectonic scale.

Passing over the Transitional Period, which some authorities have proposed to dignify with the position of an independent style, but which is really nothing but a hobbledehoy age without definite characteristics, we come to the earliest Gothic days. The first instances of more polished manners occur during the reign of Richard I.; and soon after, as we go on through the reign of his successor, intellectual influences begin to make themselves felt. For nearly three generations—that is to say, from shortly before the end of the twelfth century till a little after the middle of the thirteenth—a general similarity of feeling pervades all architectural work; and though there are distinctions which archæologists may notice, there is no marked divergence of principle. What was this time? It was the age of the growing-up of the English nation into the full manhood attained in the days of Edward I. It was a turbulent, wild period, this age of crusades and civil wars, but withal vigorous, adventurous, and enthusiastic to excess. While half mankind were fighting together, as if from sheer joy in hard blows, the remainder were rushing with equal ardour into the extremes of intellectual and religious innovations. The nation seemed as if rejoicing in its new-found strength and in its rapidly growing mental powers. A glad, buoyant freshness breathes through all its architecture, and gives it a positively rollicking air. Such free, bold, unrestrained roundness of manner was never seen before. From the pillars with their circular bases and capitals to the wheels of the rose-windows, from the rolling shapes into which arch and rib and beam are moulded to the curly bosses of the carved foliage—everywhere, in plan, outline, or ornament, one influence, the influence of the circle, reigns supreme. Circularity is unquestionably the leading characteristic of this manner. The epithet of “Lancet,” often applied to it, is, apart from the ugly associations of the word, distinctly a misnomer. The general effect is anything but sharp or pointed, as this name would suggest. Circles and arcs of circles meet the eye in every direction, and rotundity rather than acuteness is the predominant quality. No term would more aptly describe this phase of architecture than “Circular Gothic,” save, perhaps, the shorter and more thoroughly English one, “Round Gothic.”

But in the course of a very few years, within the space of less than a generation, we find that with the close of the long reign of Henry III. the nation and its architecture are going through a striking change. The former seems to have done with the athletic sports of its boyhood and to be settling down to a profession—and, moreover, to be taking to it so earnestly that, like many an active-minded young man, it becomes for a time rather pedantic and precise. The national profession was the law. The reign of Edward I. was pre-eminently the age of law. From the king himself, the incarnation of legality—*Pactum serva*,

"Stick to your contract," is the inscription, and the only inscription, on his tomb—downwards, men of every rank, bishops, soldiers, judges, scholars, members of the newly-created Parliament, were strenuously engaged in the great work of reducing confusion into order and of moulding our constitution and customs into their permanent form. There is hardly a branch of our civil institutions which does not to this day bear the impress of King Edward's sound sense and strong hand. One other feature of this epoch must also be mentioned—the remarkable group of great students and teachers of philosophy and science which distinguished it, and also the great educational foundations. It is difficult to find a parallel to it for daring intellectual activity; while not only the recorded history, but the vigorous life of our older universities, began at this time.

How did all this affect architecture? By a marked and unmistakable reaction in design—the first instance of reaction that we meet with in English architecture. There was no regular half-century transition, such as those which, though having no real existence except in the mind of the late J. H. Parker, have come to be accepted as historical facts. In a surprisingly short time, quite early in the reign of Edward I., the difference was complete. The new architecture had a somewhat stiff and austere expression, forcibly contrasting with the free, swelling robustness of its predecessor. There is less simplicity and gaiety in its manner, more self-restraint and dignity. If the sense of aspiration and of sacrifice is ever visibly present in architecture, it is so assuredly here.

But what practical form does the change take? The superseding of the circle by the triangle. The circles do not, indeed, altogether disappear, but they are everywhere confined, controlled, or even altered in character by the predominance of straight lines and sharpness. In all directions we see pyramidal canopies, gablets, pinnacles, starting up; cusps and crockets appear for the first time, and greatly accentuate the general feeling of angularity and acuteness. Trefoiled and triangular shapes abound in all the newly-developed tracery of the windows, and every moulding becomes hardened and sharpened into clear-marked edges and ridges. Perhaps most noticeable change of all, the carver abandons his round, stony conventional ornaments, and finds in following certain types of natural foliage a means of beautifully emphasising the general effect, as he revels in suggestions from every plant that is serrated, spiky, and angular in its growth. Truly it is this phase of Gothic alone which ought to be called "Pointed"; to apply the word indiscriminately, as is generally done, to all varieties of the style alike, is to lose all expressiveness.

The duration of the "Pointed" manner was short; it flourished for barely forty years, and with the death of Edward I., in 1307, its own end was near. The first definitely dated building, so far as I can discover, of the new manner which succeeded (an addition to Merton College Chapel at Oxford) was built in 1310; the last example, if records be true, of the older manner is the Central Tower of Lincoln Minster, to which the date of 1310 is also given. There is much significance in these dates. Edward II. was as different from his father as son could be, and the whole face of English society underwent a dramatic change from the moment of the death of the old king. This was reflected at once in contemporary architecture. Another reaction, more sudden than the last, took place, and design ran riot in the reversion to curvilinear forms.

But men were no longer content with the simple curves and broad, massive effects of the older curvilinear manner. Now, for the first time in the history of English art, the wave-line, ogee, or curve of contrary flexure (as it is variously called), becomes an important and, in a very few years, the dominant motive. Its sinuous, meandering lines meet us everywhere. From the wavy character of all the leading lines and of almost every individual contour, and especially from the prevalence of the peculiar form called the "wave-moulding," this type of

Gothic, commonly called "Flowing Decorated," might be more significantly as well as more simply termed "Undular" or "Wavy."

It is hardly necessary to describe how universally this spirit of design is manifested; how the stone and the timber of wall or roof, of window or screen, seem to be bent into leaf-like or flame-like shapes; how from every modelled face of pier, arch, or jamb is thrown off all that savours of sharpness or rigidity, and the outlines softened into tender, delicate curves, graceful to extreme; how every leaf or stalk of carved or painted ornament has a winding, creeping nature imparted to it, reminiscent of tangled seaweed or of river-plants swaying with the eddies of a swift-running stream. In instances such as the frequent canopies where, contrasting so strongly with the straight-sided and acute gablets of the last age, arches of double ogee curvature bow forward while rising upward, twisting into complex shapes probably unique in architecture, the undular idea appears to be carried out to the utmost.

An easy luxuriance of effect, often tending, indeed, to weakness, characterises this manner; and there is in several points an analogy (though, of course, no obvious resemblance) between it and the *style Louis Quinze* of France, the tracing-out of which might prove interesting. It was a sumptuous and graceful, though, in comparison with what it succeeded, hardly a refined or intellectual architecture, and aptly suited the ways of a luxurious and extravagant age. Beginning with the pleasure-loving Edward II., who thought that the only advantage of being a king was that he would have leisure to amuse himself, and carried to the highest pitch of magnificence under his splendour-loving successor, this manner continued throughout the first half—the prosperous portion—of the third Edward's long reign. It was the national architecture of those brilliant years, when after his great victories in France Edward III. was without question the most powerful sovereign, and his people the richest and proudest nation in Christendom. "A new sun," says an old chronicler, writing of the year 1347, "seemed to have arisen over the people, in the perfect peace, in the plenty of all things, and in the glory of such victories. There was hardly an Englishwoman who did not possess spoils of the French cities across the sea." "This was the golden era of chivalry," writes another, "and throughout the country tournaments celebrated with exceptional pomp the establishment of the Order of the Garter, instituted by King Edward to perpetuate the memory of his martial successes." Feasting, jollity, and gorgeous attire were not only the characteristics of the Court, but of all classes; the very priests, we are told, caught the example, and decked themselves in unclerical magnificence. Immense sums were being spent upon building. The King was beginning grand works at Westminster and at Windsor, palaces intended to surpass anything ever dreamt of by his ancestors. The clergy and the burgesses were embellishing their churches with lavishly elaborate additions and adornments; all over the country new manor-houses were rising, designed on a scale of luxury and stateliness never known before.

With an appalling suddenness all this came to an end. Like the ashes and the lava upon Pompeii and Herculaneum came the arrows of the Black Death upon every city and every county of Great Britain. The remotest villages, the most secluded monasteries were not spared. In the space of a few months, during the years 1348-9, more than half the population was carried off. (And this was the mortality as spread over the whole country; in several cities, such as London, Oxford, and Gloucester, hardly a tenth of the inhabitants survived, while many villages were literally emptied of human beings.) We can scarcely realise such a calamity. But if we can do so in the least degree, we must see that in social and artistic history it is a turning-point of immeasurable importance. It is the end of the continuous development of mediæval life. All the conditions under which architecture had been carried on were suddenly, violently, and for ever changed.

The recovery of England from the ravages and prostration of this terrible blow was an affair of centuries, and when after a few years some small amount of building was resumed we ought not to be surprised at finding a complete change of manner. There was no slow, gradual change, imperceptibly leading from the Wavy-Gothic manner to its successor. In buildings in progress up to the moment of the Black Death, many of which remained unfinished for years, and some to this day, we find the former employed in full and ever-increasing luxuriance, without a sign or a hint of the impending change. On the other hand, though we do indeed find the germ of the new idea at Gloucester Cathedral a few years before it overspread the country, it made no great mark till the resumption of building after the plague, when in the short space of ten or fifteen years it became fully established. This new manner was in idea the direct contrary of all that it superseded, and was so to a large extent also in practice; although lingering reminiscences of the older manner showed themselves from time to time, causing a certain confusion of effect, a want of entire purity, hardly ever noticeable in the work of the earlier periods. After the lightest and gayest of all phases of Gothic, after a manner to which any severity of effect seems altogether alien and impossible, English architecture came under the domination of the severest motive of all. The square, with its derivatives, the oblong and the octagon, became the main factor in a mode of design to which the name "Rectangular" is much more appropriate than "Perpendicular," and the simple word "Square" most fitting of all. In all probability cheapness and ease of execution had a good deal to do with the rapid spread of the "Square-Gothic" manner. The Black Death had destroyed the greater number of the trained craftsmen crowded in unwholesome towns, together with a large proportion of their best patrons—the clergy. In both instances we find as a fact that the thinned ranks could only be recruited, and that insufficiently, by extraordinary efforts. The king's surveyors had to scour the whole country to impress rough labourers to work as artisans on the royal buildings, the only large works carried on for some time; while the bishops were at their wits' ends to find men with even the minimum of the very modest educational qualifications required for clerical offices. Hedge-carpenters became carvers; hedge-priests, canons. We can easily see that in such a shattered, staggered condition of society, modes of building making the least demands on skill, mind, and purse were in most favour. This must not be taken as an indictment of "Square-Gothic" in itself; it was, of course, in some hands capable of very great things. But taken as a whole, and in comparison with what went before, its character must be described as flat, monotonous, and unaspiring. After the passionate days of "the lover, sighing like furnace," and "the soldier, jealous in honour, sudden and quick in quarrel," we seem to have come to the staid, parsimonious, and somewhat cynical age of "the justice, with eyes severe and beard of formal cut, full of wise saws and modern instances." Formalism, cynicism, and avarice were, unfortunately, specially characteristic of the period during which this type of architecture continued in vogue. It was bound to be influenced by the prevalent faults as well as the virtues of the time, but nevertheless there is much that is admirable in its stiff, steady quietude, disdaining alike all weaknesses and all extravagances. Probably no other form of architecture is so much in accord with the disposition of the average Englishman, and this would account for the fact of its continuance, so much longer than any of its predecessors, for some two centuries without very important change. This is really a very long life for any individual architectural manner, and it was only suppressed at last by the wholesale introduction of foreign fashions by the unpatriotic nobility who disgraced the courts of Henry VIII. and his successor.

This last statement as to the duration of the Square-Gothic manner needs qualifying. It might do for a very brief generalisation, but it omits one fact which ought not to be passed

over. No new elements of design were introduced during this long period, and a great similarity prevails between much of the work done at its extremes in time. But it should be noticed that pure Square-Gothic almost went out with the reign of Henry VI. Soon after the accession of Edward IV. (who, it may be noted, had a good deal in common with Edward III., the luxuriant character of whose buildings has been already referred to) a florid influence shows itself, rendering such buildings as the royal chapels at Windsor and Westminster considerably different in feeling and effect from those carried out, for instance, under William of Wykeham in what is generally regarded as the same style. Much of this later work was, in truth, designed in a "Composite" manner, bringing in again all the forms that had been used before. The revived use of the wave (or ogee) is very marked, and to a lesser extent both circle and triangle play a part in design. It is this mingling of forms which gives the peculiar richness so often noticed in what is called the "Tudor style," though a fashion really begun before the days of the first Tudor king.

Sir Gilbert Scott once remarked of the Perpendicular style that all its beauties, on analysis, resolved themselves into reminiscences of something that one had admired before in an earlier style. Taken as describing the later variety of the style *only*, this correctly expresses the fact. For this last phase was what, perhaps, may be called a final "flare-up" of Old English architecture. No one principle remained predominant. A medley of confused forms combined to produce a gorgeous but restless effect. It seems rather odd, after all, to reduce our Old Gothic style into something like "five orders," ending with a "Composite"; but we cannot alter the facts of history; and perhaps there may be some natural tendency for a great architectural cycle to complete itself thus, gathering up all its memories before its death.

The outcome of this retrospect appears to be that we must look upon all Old English architecture as having a geometrical root. And in grasping this fact we may even be lighting upon that subtle "fourth dimension," that harmonising spirit in design, which one of our greatest living architects has lately deplored the lack of in modern buildings. This is a hard saying indeed. It brings up visions of those diagrams of buildings that we used to see in architectural treatises, hatched all over with imaginary lines, and of all those ingenious arguments on the principles of their setting-out which failed to convince us on account of the arbitrary and contradictory systems of measurement on which they were based. It may bring up, also, the bodily forms of architects who boast that they never use compasses in their work; and I may be accused of vilifying our mediæval ancestors by suggesting that they were so inartistic as to use such base mechanical aids. But the matter I am dealing with has nothing to do with such comparatively trivial questions as the drawing of the minor parts of a design in freehand. The details may be sketched in picturesquely enough on the working drawings, and yet the building as a whole may have no life in it. Without the life, which can only come from an animating idea, the greatest technical powers will only succeed in producing confused, weak, and to minds with an eye to a false note—the sense can only be expressed by a bull—quite inartistic work. It would be easy to name many instances of the works of great architects, both of the last and of the present generation, which somehow entirely fail to satisfy. Yet one may not be able to trace the cause either to too great or too little symmetry, to over-richness or over-severity, to deficiency in solidity or in good adaptation to purpose, nor to want of taste about any single detail separately considered. The only fault that it seems possible to find—but, whatever the nominal style of the work, a fatal one—is that the chief designer either knew too little or cared too little about the supreme importance of harmony in anything pretending to be a work of art. One feels that even in a short composition he could not be content to choose one keynote, and stick to it. He seems to be perpetually mixing up antagonistic and irreconcilable motives, as if he

could not make up his mind which to follow out. There are critics who praise these patch-work designs as evidence of artistic power, of freedom from servile adherence to precedent, and so on. But are they not really as far from being true art as was the "tune" achieved by the piper in Mr. Gilbert's ballad, who

"blew with a will
For a year, seven months, and a fortnight, until
(You'll hardly believe it) M'Clan, I declare,
Elicited something resembling an air.
It was wild, it was fitful, as wild as the breeze;
It wandered about into several keys;
It was jerky, spasmodic, and harsh, I'm aware;
But still it distinctly suggested an air"?

A habit of obedience to geometrical canons need not in the very least degree tend towards making architectural design a cold, hard, mechanical science—the story of the past disproves it—any more than it can be expected to make it an easy task for dull minds wanting in the sense of beauty. It is not to be thought of as a royal road to designing, nor as taking the place of any quality heretofore reckoned necessary to an architect; but it is the addition to his equipment of a faculty for keeping within the bounds of rhythm in architecture of a poetical order, and within those of grammar and appropriate style in those forms of design which may be described as prose. Geometrical design, as I understand it, does not consist in turning immaculate arcs and in describing absolutely symmetrical triangles; it is more an affair of the mind than of the hand. I would call it the developing of a building, or smaller work equally, upon a definite root-idea, keynote, or motive, of a geometrical nature. The material execution may be as free, as rough even, as anyone may wish—mathematical precision in details, indeed, would be more apt to mar than to make the success of the result; all that is requisite and desirable is that the same generating figure shall dominate the work throughout. The motive should be chosen to be in agreement with the expression proper to the building, and with the nature of the materials to be used. This consideration may furnish us with some new ideas, quite apart from Gothic reminiscences. The two great orders of Greek architecture, the only two which the Greeks thoroughly worked out, have a marked difference in geometrical character—the Doric being distinctly rectangular in motive, and the Ionic curvilinear, of the undular variety. We are sometimes told now that we ought to abandon entirely all precedents in features, details, or mouldings, and let materials be our only basis of design. Well and good, to a certain extent; materials are indeed an indispensable element of sound architectural design, and their importance has for some time past been far too lightly regarded. But matter by itself is dead—to form architecture it requires the impulse of mind. With due reverence one may recall Milton's description of the greatest design of all:

I saw when at his word the formless mass,
This world's material mould, came to a heap.

The best way for us to follow in our endeavours to bring the inert, shapeless stuff with which we deal into forms instinct with aptness, strength, and beauty is, I venture to think, to infuse into each design the spirit of that particular geometrical figure which seems most appropriate to the specific conditions of the building. In this choice we are sure to be influenced by our own mood. Formerly all the men of one generation, and sometimes even of two or three generations in succession, were far more alike in their knowledge, ideas, and aims than is the case now. Thus in matters architectural it was once easy enough for the whole nation to work together for many years, content with a single leading motive in design. Now we have among us all the types of men that have lived aforetime in England—men in

minds and manners round, square, angular, and so on. (It would be easy to multiply instances from modern literature of such adjectives being effectively applied to human beings.) But there is scope in this method of design for expressing every variety of personality, as there is also for giving to every building the expression of its special character.

It is not desirable to attempt to lay down rules, after the manner of Sir William Chambers, as to the exact type of design proper to each several class of buildings, simply according to their use, apart from the other conditions of their erection; though one can sympathise with him in his desire for congruity between form and purpose. But consideration ought to show that certain classes of forms do suggest themselves as being better fitted than others to express the character of particular buildings. And, without any dependence at all on foreign principles or details, it ought to be perfectly possible to give every required shade of expression to every class of building, from the pleasantest to the sternest, from the most frivolous to the most sublime, simply by the tasteful handling of an appropriate motive. Where the purpose of a building may not in itself give much cause or opportunity for expression, the situation of it may often point to the adoption of one mode rather than another, as helping to form either a more perfect harmony or a more telling contrast, whichever result is desired, with its surroundings. Most of the building materials which we have at hand in such great variety seem also, if used in a straightforward, unsophisticated manner, at once to suggest appropriate modes of geometrical treatment. There is not one individual feature, detail, or ornament, derived from past styles, which may not become so grievously hackneyed that one wishes never to see it repeated again. But the broad principles of design based upon geometry are infinite in their possibilities and eternal in their duration.

The physically possible forms into which, by the natural laws controlling matter, every architectural creation must somehow fall, may for convenience be grouped into classes, according to the qualities of the lines that bound or appear to bound them. I ought to acknowledge my indebtedness for the first suggestion of this method to that very interesting book *The Principles of Design*, by Mr. E. H. Garbett; though I trust it will not be thought that I am merely repeating the views of its ingenious author. Every practicable form, then, with which we are concerned, ultimately belongs, however disguised by the ignorant or wilful inconsistency of designers, to one or other of the following five classes:—

1. *Rectangular*.—Bounded by straight lines at right angles to each other.
2. *Triangular*.—Bounded by straight lines not at right angles to each other.
3. *Circular*.—Bounded by arcs of circles.
4. *Undular*.—Bounded by circular curves of contrary flexure.
5. *Conoidal*.—Bounded by regular curves other than arcs of circles.

I am afraid that this table would shock a professor of scholastic geometry; but, however scientifically imperfect in its definitions, it includes, I believe, and also sufficiently distinguishes between, every variety of form which can enter into architectural design.

The Old English builders employed at one time or another, as we have already seen, each of these groups of forms, except the last,* though not in the same order of succession as this table. They took the leading figure of each class in turn as the keynote of a harmonious scheme of design, in which every part, from the main constructive lines down to the last touch of decoration, contributed to the general unity of effect.

But it must not be thought that they ever went near to exhausting the capabilities of even

* At least I know of no mediæval instances. But there is an interesting example in the nave arcade of St. Margaret's Church, King's Lynn, rebuilt some 150 years ago on the old design and with the old mouldings, but

substituting *elliptical* for four-centered arches. Opinions may differ as to the result: I think it shows that such curves may be effectively and even pleasingly employed in Gothic work.

one group. Many of the suggestions derivable from geometry have, so far from having been played out, never even been attempted, and there is no fear of lack of variety in adopting them for quite new uses. Take masonry for example. In all Old English work the various motives used have only been applied to designs of one particular class, those which could be carried out with small-sized blocks of freestone. Hence through this physical restriction the Old English builders could never reach the extreme heights of massive grandeur; and their rectangular mode—instead of being, as by all analogy with natural objects it ought to have been, the severest manifestation of their style—was, in point of fact, the tamest. So the notion has come to be accepted as a truism that the use of very large stones is inadmissible in Gothic designs. No doubt it is so for pure copying, where nothing higher than facsimile imitation, on a level with the Chinese tailor reproducing the patches of the old coat, is aimed at. When all the details of a design have been pillaged from buildings (probably East Anglian churches, rendered familiar by Brandon) for the erection of which large stones could not be got for love or money, where even scraps of bad stone were treasured as a luxury to be used as sparingly as possible, and the scanty ashlar was set off by a background of plastered rubble; when such tiny mouldings and slender mullions, all measured by eighths of inches, are used (as may be seen, for instance, in the front of Liverpool Grammar School), in conjunction with walling of huge blocks, each measuring many cubic feet, of hard, fine-dressed stone, the contrast may well strike us as absurd. But the fault lies not in the style but in the handling. Why should we not abandon some of the old, conventional dimensions and proportions, and design buildings to be executed in large blocks of hard stone or granite, which should yet be thoroughly English, and not mere adaptations from the big-stone architecture of the Mediterranean nations?

Stone, the grandest and most universal of all our materials, lends itself to designs conceived in any mode; though even in this instance different kinds have their own most fitting manner of use. Brick, however, while readily handled in simple curvilinear design, is a stubborn thing when tortured into pointed, or even strictly rectangular features; while terra-cotta, from its wayward nature and the uselessness of trying to keep it in perfectly straight lines, seems to cry out to be treated on the undular idea of gently swelling mouldings and wavy lines throughout. Cast-iron, lead, and plaster are also by their qualities most suggestive of an undular design. Not so, however, wood, which—though it has often to be subservient to the general expression of other materials with which it is associated—when used alone demands a treatment mainly rectangular or triangular in feeling.

The choice of geometrical motives is actually much wider than might at first be supposed. Although one out of the five principal ones must be taken as the keynote, so to speak, there is a long scale of degrees to range up and down. Without pressing the musical analogy too far, it should be obvious that each of the leading geometrical figures may, through its derivatives, become the basis of several distinct modes of design, even in the abstract, without taking into account the innumerable modifications which may be introduced by the special conditions and materials of an actual building. Another different and very important method of gaining variety is to be found in the power of softening, enriching, or contrasting the forms belonging to the dominant motive, by intermingling forms taken from one or even more of the other main groups, and used in due subordination. It is in compositions where this device is employed that the crowning successes, and also the most complete disasters, will occur.

But the last, and a never-ending source of diversity in unity, comes with the actual touch—the individual personality of the architect and his fellow-workers, whether draftsmen or craftsmen. And herein lies a strong argument in favour of designing by reference to a purely geometrical ideal, rather than by imitation of classical or other precedents.

It is often said that whether, as some maintain, for the sake of art itself, or as others,

for the sake of the man's own happiness and that of those associated with him, it would be a good thing to decentralize somewhat the architect. This overwhelming personal element in building—this despot who claims to invent and direct everything—is to some of our cleverest professional critics of all things the most detestable. They confidently tell us that the architect is the bane of architecture. Well, what do these critics do themselves? They carry on architectural practices much like other people, only in the matter of style it is the fashion with this school to say that they admire the Old English architecture so intensely that they fear to do anything which may challenge comparisons with it; so out of their much-professed love for the old work they go about insulting it daily by the mongrel Italian structures which they fling against its face.

But all this copying, whatever may be its models, can it ever lead to living design? Can it ever give the workman an intelligent and healthy interest in what he is doing? I doubt it. The present whim of producing unimpeachably Hanoverian town-halls, or hotels with their various rooms each correctly in the style of some King Louis of France, is, to say the least, as dull and unimproving for everyone concerned as the now-ridiculed sentiment which delighted in imitating the churches and mansions of the Plantagenets or Tudors.

Only, so far as I can see, in the adoption of the method of geometrical design—used, of course, not mechanically, but with intelligent and loyal freedom—have we the possibility of enlisting the fruitful co-operation of all the minds and hands employed in the various stages of the erection of a building. In this way seems to lie our hope of getting all the minor parts of buildings consistently and harmoniously executed, without the unfortunate necessity of the constant intervention of the architect, and the interminable multiplication of special designs. Can you tell any ordinary man to draw or execute the smallest item of a building on his own responsibility, giving him general instructions that it is to follow some particular bygone style, or even distinct period of that style, and feel any confidence as to the result? If the man happens to have taste he may do something which, taken by itself, is not artistically bad. But what are the chances for or against its taking its place happily in the main scheme? And what will the combined result be like if you tell each man that the work is to be in no style at all, and that all he has to be careful about is that what he does shall be utterly unlike anything ever seen before? At present we halt between these two opinions—the past style and the no style.

But, on the other hand, is it too Utopian to suggest that some day, though only in the dim future, the architect, no longer sole designer but again chief artificer, may be able to impart to the other workers of every rank the chosen motive of the work, confident that it will be understood and followed out in every part? Then at last, instead of the weariness of jangling discords, we should have sweet music—a delight both to player and to listener, and as truly and fully melodious as was ever heard of old. Yes, for geometry is not an arbitrary convention devised by man: it exists throughout Nature and is part of the natural order of the world. Truly, therefore, in seeking in geometry for inspiration should we be returning, I believe, to the best foundation for all art—a reverent study of Nature. So should we be acting in the spirit of these noble lines of Longfellow:—

Art is the child of Nature; yes,
Her darling child, in whom we trace
The features of the mother's face,
Her aspect, and her attitude,
All her majestic loveliness,
Chastened and softened and subdued
Into a more attractive grace,
And with a human sense imbued.
He is the greatest artist, then,

Whether of pencil or of pen,
Who follows Nature. Never man,
As artist or as artisan,
Pursuing his own fantasies,
Can touch the human heart, or please,
Or satisfy our nobler needs,
As he who sets his willing feet
In Nature's footsteps, light and fleet,
And follows fearless where she leads.



9, CONDUIT STREET, LONDON, W., 27th July 1901.

CHRONICLE.

The National Memorial to Queen Victoria.

The following letter has been received from Lord Esher:—

*H.M. Office of Works, Storey's Gate,
Westminster, S.W. : 12th July 1901.*

DEAR SIRS,—

Queen Victoria Memorial.

In further reply to your letter of the 7th May last, forwarding the Resolution passed at a Special General Meeting of the Royal Institute of British Architects, I now have the honour to inform you that in accordance with the desire of the Meeting this Resolution has been laid before the Executive Committee appointed by H.M. The King.

I am instructed to say that the Committee see no reason to depart from their original decision, taken after careful and due deliberation.

I have the honour to remain

The Secretaries Your obedient Servant,
Royal Institute of British Architects. ESHER.

The Resolution referred to, which urged upon the Executive Committee the desirability of inviting designs for the Memorial from all British architects in open competition, was passed on the 29th April at a Special General Meeting convened on the requisition of twelve subscribing members. The proceedings of this Meeting are reported in the *JOURNAL* for 11th May, pp. 324 *sqq.*, and the Resolution is printed in the Minutes, *ib.* p. 334.

Replying to a question in the House of Commons last week, Mr. Akers-Douglas said that the Executive Committee had selected a design, and that it would be submitted to the King and to the General Committee this week.

Models of the New Government Buildings.

The Council have addressed the following letter to H.M. Office of Works:—

5th July 1901.

MY LORD,—At the instance of Lord Wemyss, who is a member of the Royal Institute, and in support of a letter addressed to the Editor of *The Times* by our past President, Professor Aitchison, R.A., the Council of the Royal Institute of British Architects beg leave to direct the attention of H.M.'s

Government to the suggestion of models being prepared of the new Government buildings about to be erected in Whitehall and in Parliament Street. They would point out that many precedents exist for such a course, and would instance the cases of the Houses of Parliament and the Royal Courts of Justice.

The Council of the Royal Institute take this opportunity of touching upon the question of the completion of the new block of Public Buildings in Parliament Street, and would most respectfully urge H.M.'s Government to appoint an architect of repute, and in sympathy with the late Mr. J. M. Brydon's artistic ideals, to carry out the approved design.—We are, my Lord, your Lordship's faithful servants,

ALEX. GRAHAM, *Hon. Secretary.*

W. J. LOCKE, *Secretary.*

The Rt. Hon. Lord Esher.

Professor Aitchison, in the letter above referred to, which appeared in *The Times* of the 8th June, says:—

"It is most unfortunate that the two distinguished architects who were to build the new Government offices are both dead when the foundations alone have been completed; and I dare say that no model of either of these great public monuments exists. I believe that all the principal buildings of the world, at least since Justinian's time, were built from models, and by the precaution taken by the Pope to have a model made we have now Michelangelo's dome at St. Peter's.

"For many of the buildings that have won the admiration of mankind two architects were employed, to ensure, I suppose, that the approved design might not be lost by the death of its designer. The Parthenon had Ictinus and Kallikrates for its architects. Anthemius of Tralles and Isidorus of Miletus were the architects of Sta. Sophia at Constantinople.

"At St. Peter's Bramante was seconded by B. Peruzzi, and afterwards by Antonio da San Gallo the younger. Raffael had Giuliano da San Gallo and Fra Giocondo as aids, and after their deaths A. da San Gallo the younger was first architect; he had Peruzzi as his second. There was no second architect to Michelangelo, although he had Vignola and Pirro Ligorio as aids.

"We were lucky in the strength and long life of Wren, who finished our great Protestant Cathedral, and in Sir Charles Barry, who finished the Houses of Parliament; but Elmes, the architect to that triumph of classic architecture St. George's Hall at Liverpool, died before it was finished, though he was fortunate in having so great a master as Professor Cockerell to finish it.

"But should the proper completion of great public monuments be left to chance? The French Government, I am given to understand, always appoint a first and second architect to all their

public buildings, the second being fit to carry out the first architect's design in case of his death.

"I am afraid the English people are not aware that architecture is the record of the artistic skill of each epoch and tells the state of cultivation of the nation from which all else may be deduced, or else they would not be so regardless of the possible fate that a monument may meet with in case of the death of the original designer—that is, they do not care if a bad history of their time is handed down to posterity."

The question of the models was brought forward in the House of Lords on the 16th July by the Earl of Wemyss, who moved "That in the opinion of this House, it is desirable that models of the proposed public buildings at Whitehall and Parliament Street should be made and publicly exhibited as recommended by Professor Aitchison, late President of the Royal Institute of British Architects, and by the present President and Council of the said Institute." Lord Wemyss quoted a memorial signed two years ago by 140 peers in favour of the exhibition of models and the taking of precautions to ensure the erection of a War Office building worthy of the site. His Lordship contended that if there were any difficulty owing to contracts having been taken, it was not beyond the power of adjustment.

The Motion was supported by Lords Tweedmouth and Stanmore, and on a division was carried by a majority of 21 :—41 for and 20 against.

New Government Offices in Parliament Street.

In the House of Commons on Tuesday last, Mr. Akers-Douglas stated that it had been definitely decided that Mr. Brydon's building, all the plans for which were in his (Mr. Akers-Douglas's) possession, should be carried out by the officers of his Department, and the contracts would be entered into under the supervision of the principal architect and of Sir John Taylor. He hoped thereby to effect a considerable saving.

The Paris Exhibition 1900: Mr. Ernest George's Report upon the Architectural Exhibits.

The Report of H.M.'s Commissioners for the Paris International Exhibition 1900, contained in two tastefully got-up octavo volumes of some 300 pages each, has been received by the Institute for the use of the Library. The Commission was appointed in February 1898, and was first presided over by His Majesty the King, then Prince of Wales; after His Majesty's accession the Duke of Devonshire was appointed Chairman. The Royal Institute of British Architects was represented on the Commission by its President for the time being—Professor Aitchison, R.A., acting until June 1899, and being followed by Mr. Emerson, who also sat on the Fine Arts sub-committee and was one of the signatories to the Report.

The Duke of Argyll and Sir Edward Poynter, reporting upon the Fine Arts section, state regarding the judging of Paintings that the decisions of the jury have been accepted as a fair and generous appreciation of the British school and of the artists represented. In Sculpture Great Britain showed a larger number of works than she has ever contributed before to any international exhibition abroad; but the exiguous amount of space accorded to the British section placed it at some disadvantage.

It cannot be said, the Report continues, that the contributions in Architecture fairly represented the art. Of the hundred architects invited to participate, only thirty-six responded, and these did not include all of the best-known practitioners. The drawings were mostly of domestic buildings, work of a higher class being almost entirely unrepresented.

Although the British exhibit, as a whole, did not reflect the highest level to which the arts have attained in this country, it was generally admitted to be the best of the Foreign sections. More medals were awarded to the British than to any other Foreign section.

The following is the Report upon Architecture by Mr. Ernest George [F.], one of the representatives of Great Britain upon the International Jury:—

"Having been privileged to serve as a juror on the Art section of the Paris Exhibition, I make the following comments upon my department, Architecture.

"It was disappointing to find the contribution of architectural drawings from Great Britain to be small, and to consist for the most part of unimportant works, not fairly representing British art. The list of exhibitors contains but thirty-six names, and in this list several of our leading architects are not to be found, while one or two men have sent drawings hardly supporting their deserved reputation.

"Our exhibited drawings are mostly examples of domestic buildings, and our foreign critics give us higher praise for this branch of work than for our civic or public buildings. Architecture is less erratic and more traditional in France than in England, but when a Frenchman forsakes his classical lines there is commonly less restraint and propriety and less of a pleasant homeliness than in our own country work. The English country house has more comeliness and comfort than the average *maison de campagne*.

"An architectural exhibition will never claim public interest as will exhibitions of the sister arts. The painter and sculptor show their completed works, while the architect's buildings are only explained by diagrams, and it is undesirable that these drawings should become pretty pictures or works of art in themselves.

"In the group of *Grande Bretagne* there are mostly line drawings, while in the *Etats Unis*

adjoining it is interesting to find architecture represented only by photographs of executed works. These, while making a modest display, seem to us to make the most reliable statement of the present position of architecture in America.

"The German architectural exhibits are few, but they represent municipal buildings and churches drawn and coloured to a large scale and handsomely framed, as if the picture, rather than the building, were the ultimate end.

"France presents many works of interest; there is much art in the tinting of the drawings, which are frequently on a grand scale. There are many archaeological studies working out the problem of restoring ancient cities or temples, reconstructing them from the fragments still to be found. These show a deep and patient research into ancient art that is hardly practised with us, our training being of a more limited and utilitarian character.

"Our own students have given equally close study to mediæval examples, the Early Renaissance, and to subsequent styles, and I venture to think that in our revival or adaptation of the French, the Flemish, or particularly the Dutch types, our own application or reproduction of these is more satisfactory than the prevailing modern work in the countries that gave birth to these styles. I believe that from our best hands the spirit and refinement of the old work is often attained which in Continental modern work is so frequently missed.

"We have shown the difficulty of judging architecture from drawings and diagrams, and it is pleasant to turn from these latter to a few examples of the art realised in stone (or its substitute). There is a Rue des Nations, where harmony is less possible than in a concert of European Powers. The effect of all the styles being brought into one street is necessarily *bizarre*, but perhaps the most reposeful building is the English Royal Pavilion, of which Mr. Edwin L. Lutyens is the able architect. It is a small but charming country house founded upon a Wiltshire type and cleverly carried out. The interior, with its oak panelled walls, good chimney-pieces, and fine parget ceilings, receives a further refining influence from the Sir Joshuas, Romneys, and other choice pictures of the English school, kindly lent by their owners, and a source of interest to foreigners, who know too little of our English masters. In this pavilion we only regret the needless red brick chimney-stacks on its corners and set upon the stone wall; had these chimneys grown naturally out of the roof, we could have excused their being of brick. The first impression given by this English manor-house is of its being *petite*. It is no doubt out of scale with its surroundings, which have been growing up with it. We desire to see horizontal lines, terraces, and yew hedges about our building, instead of the soaring lines of the Oudenarde Rathhaus in its close proximity; but this difficulty was inevitable.

"Another English building of interest, thoroughly original and with a distinct charm of scheme and proportion, is the Pavilion of the Peninsular and Oriental Steam Boat Company, by Mr. T. E. Collcutt. Its low dome is pleasant both from inside and outside, and it works off the square plan very happily. It has simplicity of line and is without ornament but for the low-relief modellings by Messrs. Lynn Jenkins and Moira.

"Another English architect, Mr. Charles Clowes, is answerable for the Anglo-Indian and Ceylon buildings, where the Oriental treatment is cleverly adapted to the needs of the several structures.

"With regard to the medals bestowed on the section of British architecture, in which half the number of exhibitors receive distinctions, my opinion is that we owe as much to the generosity and kindly feeling of the jury as to the merits of the works exhibited."

THE JUNE EXAMINATIONS.

Preliminary.

The Preliminary Examination, qualifying for registration as *Probationer R.I.B.A.*, was held in London and the various provincial centres indicated below on the 11th and 12th June. Of the 201 candidates admitted, the Board of Examiners exempted 42 from sitting. The remaining 159 were examined, with the following results:—

	Examined	Passed	Relegated
London	79	46	33
Birmingham	8	3	5
Bristol	10	6	4
Cardiff	6	4	2
Dublin	4	3	1
Exeter	7	3	4
Manchester	26	17	9
Newcastle	8	4	4
York	11	6	5
	159	92	67

The successful candidates, numbering altogether with those exempted 184, have been registered as Probationers. Their names and addresses are as follows:—

BAGOT: Walter Herve; Forest Lodge, Aldgate, South Australia [Master: Mr. Edward John Woods *].
 BENJAMIN: Ashley Florian; 24, Norfolk Square, Hyde Park, W. [Master: Mr. M. E. Collins].
 BILLINGS: Percival Upton; Grove Lodge, Clarendon Road, Sale [Master: Mr. R. J. McBeath].
 BIRKETT: Stanley; 10, Central Road, West Didsbury, Manchester [Pembroke House School].
 BOOTH: Alfred; 207, Sheffield Road, Barnsley [Master: Mr. W. H. Beevers *].
 BOWN: Harold Linley; Hillstead, Grove Road, Harrogate [Masters: Messrs. H. E. & A. Bown].
 BRAY: Arthur George; 11, Crawford Avenue, Bolton [Masters: Messrs. Bradshaw * & Gass *].
 BROOK: Tom Harvey; 5, Woodhead Road, Holmfirth, near Huddersfield [Master: Mr. E. W. Lockwood].
 BULMER: Francis Holles; 25, Thomas Street, Woolwich [Masters: Messrs. T. & W. Stone].
 BURBAGE: James Herbert Ransome; 8, Above Bar, Southampton [Masters: Messrs. Lemon * & Blizzard].

- BURKE: Martin Joseph; 1, Eglinton Terrace, S.C.R. Dolphin's Barn, Dublin [Master: Mr. R. Coulson].
- CARTWRIGHT: Harry; 31, Park Hall Road, East Finchley [The Polytechnic School of Architecture].
- CHAMBERLAIN: Arthur; 13, Grey Street, Newcastle-on-Tyne [Master: Mr. A. B. Plummer *].
- CHAUNDLER: James Herbert; Blackwater House, The College, Eastbourne [Eastbourne College].
- CHEATLE: Roland Henry; Burford, Oxon. [Eastbourne College].
- CLAY: Herbert; 1, Ruskin Street, Gainsborough [Masters: Messrs. Eyre & Southall].
- CLIFFORD-SMITH: William; c/o Mr. J. Dyson, Longfleet High School, Poole, Dorset [Master: Mr. T. Stevens *].
- CLISSOLD: William; Edgehill, Minchinhampton, Gloucestershire [Wyclif College, Stonehouse].
- COBBETT: Guy Bernard; Woburn Chase, Addlestone, Surrey [Masters: Messrs. Romaine-Walker* & Besant*].
- COLLINS: Alfred Francis; 31, Albany Road, Windsor [Masters: Messrs. Borgman & Benison].
- COOPER: Charles Sydney; Acacia House, Gainsborough [Master: Mr. R. W. Fraser].
- CRABB: Henry Ralph; 5, Richmond Road, St. David's, Exeter [Hele's School, Exeter].
- CULLEY: Norman; 128, Bradford Road, Huddersfield, Yorks [Master: Mr. W. Cooper].
- CURWEN: Robert Babington; Bywell, South Woodford, N.E. [Master: Mr. C. Harrison Townsend *].
- DAHL: John Love Seaton; 144, Bedford Street, Liverpool [University College, Liverpool].
- DAVIDSON: George Veitch; Calside House, Paisley [Master: Mr. C. Davidson].
- DEY: Victor Albert George; 8, Chanonry, Old Aberdeen, N.B. [Masters: Messrs. Brown & Watt].
- DICK: Norman Aitken; 26, Colinton Road, Edinburgh [Masters: Messrs. Peddie & Washington Browne].
- DICKS: Harold Edward; Semington, Cleeve Hill, Cheltenham [Dean Close School].
- DOD: Edwin James; 24, Liverpool Road, Birkdale, Southport [Master: Mr. James Dod].
- DONNELLY: Robert; Lower Martello Terrace, Holywood, co. Down [Master: Mr. J. J. McDonnell].
- DOWNS: Harry Beecroft; Shaw Side, Guiseley, Yorkshire [Master: Mr. Harold Chippindale].
- DUNCAN: Alexander McLauchlan; 34, S. William Street, Perth, N.B. [Master: Mr. James Marshall].
- DURSTON: Cecil Campbell; Manordene, Bristol Road, Weston-super-Mare [Master: Mr. Hans F. Price].
- EATON: Charles William; 23, Mecklenburg Street, Leicester [Masters: Messrs. Goddard* & Co.].
- EDWARDS: Sidney Albert; 32, Wentworth Road, Manor Park, Essex [Master: Mr. S. Jackson].
- ELLIS: Theodore Moorhouse; 58, Coltman Street, Hull [Masters: Messrs. Botterill, Son, & Bilson *].
- FIFOOT: Louis Stanley; Ingledene, Victoria Road, Penarth, Cardiff [Master: Mr. J. Coates Carter *].
- GIBSON: George McLean; Tynedale, Wilton Road, Hornsea [Master: Mr. J. M. Dossor *].
- GILL: Charles Lovett; 52, Osnaburgh Street, Regent's Park, N.W. [Master: Mr. Frank T. Verity *].
- GOTT: Joseph Harold; 1, Hamilton Villas, Alexandra Road, Margate [Master: Mr. W. D. Carøe *].
- GOULD: George Harry Bertram; 46, Bolton Lane, Ipswich [Masters: Messrs. Brown & Burgess].
- GUTTERIDGE: Reginald Fowler; Littlecroft, Northlands Road, Southampton [Masters: Messrs. Mitchell, Son, & Gutteridge].
- GWYNNE: Gordon Ilttydd; The Homestead, Churchill Road, Boscombe, Bournemouth, Hants [Master: Mr. G. A. Bligh Livesay *].
- HALL: Stanley Alexander; Craigforth, Muswell Road, Muswell Hill, N. [Masters: Messrs. Arch. C. Dickie* & W. Curtis Green].
- HALLIDAY: James Theodore; 40, Emma Place, Stonehouse, Plymouth [Master: Mr. H. J. Snell].
- HART: Francis James Watson; 18, The Avenue, Brondesbury, N.W. [Master: Mr. John Belcher, A.R.A.*].
- HASTEWELL: Robert Edwin; The Grange, Haltwhistle [Master: Mr. H. Higginson].
- HEDGES: Frank Russell; 4, Museum Square, Wisbech [Master: Mr. F. Burdett Ward].
- HIGSON: Herbert Walker; Overton House, Church Road, Smithills, Bolton, Lancs. [Masters: Messrs. Potts,* Son* & Hennings*].
- HILL: Samuel Woods; 13, Queen's Road, Finsbury Park, N. [Master: Mr. T. W. Cutler*].
- HIRD: Henry Dennis; St. Mary's Vicarage, Halifax [Masters: Messrs. Milnes & France*].
- HODGES: William Ashford; Cherrywood Lodge, Arthur Road, Wimbeldon Park [Master: Mr. H. Phelps Drew].
- HOLLAND: Harry Dawber; Bank Villas, Spring Bank, Pemberton, near Wigan [Master: Mr. R. Pennington].
- HOLMFELDT: Arnold Pearson; o/o Dr. Fairbank, Boulevard, Hull [Master: Mr. John M. Dossor*].
- HOLT: Harold Guy; 111, Manchester Road, Bolton [Masters: Messrs. Cunliffe & Pilling*].
- HUDDART: Richard Melvil Fane; 29, Ossington Street, Bayswater [Master: Mr. W. E. Lutyens].
- HUNTER: Robert Cameron; 11, Greenhill Gardens, Edinburgh [Master: Mr. Hippolyte J. Blanc*].
- IRON: William Stanley; 33, Cricketfield Road, Clapton, N.E. [Master: Mr. C. H. Worley*].
- JACKSON: Walter; 28, Bedford Road, Hitchin, Herts [Master: Mr. Walter Graves*].
- JAQUES: Sydney; Edith Villa, 34, Hamfrith Road, Stratford, E. [Master: Mr. F. J. Sturdy*].
- JENNINGS: Daniel Strachan; 16, Shaftesbury Road, Hammersmith [Master: Mr. R. J. Beale*].
- JOHNSON: William Herbert; 8, King Street, Great Yarmouth [Great Yarmouth Grammar School].
- JONES: Frank Henry; 14, South Albion Street, Leicester [Master: Mr. Arthur Wakerley].
- JONES: Percy Charles; 20, Gallowtree Gate, Leicester [Master: Mr. G. Lawton Brown].
- JOYNES: William James; Manor House, Royal Fort, Bristol [Master: Mr. W. S. Skinner].
- KERR: Thomas; Rosenheim, Inverness [Master: Mr. W. L. Carruthers*].
- KEYS: Hubert Percy; 31, Truro Road, Wood Green, N. [Master: Mr. J. Hatchard Smith*].
- KÖRNER: Theodore Walter Frederick; 17, Boughton Street, Sunderland [Master: Mr. Hugh Hedley].
- LAMBERT: Arthur Peploe; 171, Loughborough Road, Brixton, S.W. [Masters: Messrs. I'Anson & Son*].
- LANGHAM: Claude Stephens; 8, Upper Tichborne Street, Leicester [Master: Mr. R. J. Stephens].
- LE GASSIC: Arthur Henry; Plympton, Devon [Masters: C. King* & E. W. Lister].
- LINNELL: Henry Rupert; 66, Thornhill Road, Leyton, Essex [Masters: Messrs. Brown & Barrow*].
- LLOYD: John Willott; Hope Cottage, Staplegrove, Taunton [Master: Mr. F. W. Roberts].
- LYNHAM: Arthur George; 90, Ashley Road, Bristol [Master: Mr. W. V. Gough].
- MACDONALD: Donald; Auchmore Farm, Muir of Ord, Ross-shire [Masters: Messrs. Ross* & Macbeth].
- MACGEORGE: Archie Clair; 44, Aldridge Road Villas, Westbourne Park, W. [Master: Mr. G. H. Fellowes Prynn*].
- MACMILLAN: Alec Lowe; 85, Cambridge Road, Southport [University College, Liverpool].
- MACRAE: Ebenezer James; 7, Young Street, Edinburgh [Master: Mr. A. Macpherson].
- MARSHALL: Frederic; The Bank, Hazel Grove, Stockport [Master: Mr. H. E. Stelfox*].
- MATLEY: James; 491, Ashton Road, Oldham [Masters: Messrs. Wild, Collins, & Wild].

- MITCHELL: Daniel; 8, Grosvenor Park, S.E. [*Masters*: Messrs. Niven * & Wigglesworth *].
- MITCHELL: James; 7, Young Street, Edinburgh [*Master*: Mr. A. Macpherson].
- MITCHELL: William Henry; The Firs, Irlam Road, Sale, Manchester [*Master*: Mr. O. C. Hill].
- MORLAND: Geoffrey; 73, Morland Road, Croydon [*Master*: Mr. Arthur Keen].
- MORRAN: Henry Stanley; 45, Herbert Road, Plumstead, Kent [Auckland College and Grammar School, New Zealand].
- MURRAY: George Cumbe; 11, Molesworth Road, Stoke, Devonport [*Master*: Mr. H. G. Luff *].
- MURRAY: Robert Howson; Shadowbush, Norbury, S.W. [*Masters*: Messrs. Best * & Callon *].
- NEWTON: Percy Gerald; 24, York Road, Kingstown, co. Dublin [*Master*: Mr. Cecil Orr *].
- NOEL: Joseph Hyde; 26, Pindersfield Road, Wakefield, Yorks [*Master*: Mr. Henry Crutchley].
- O'CONNELL: Vincent James; 34, Gardiner's Place, Dublin [*Masters*: Messrs. Hague & McNamara].
- PAICE: William, jun.; The Limes, Egham, Surrey [*Masters*: Messrs. Dale * & Gadsdon].
- PEARSON: Ernest Walter; Fairfield, Idle, Bradford, Yorks [*Master*: Mr. James Ledingham *].
- PETCH: Ernest Scott; Silcoates School, Wakefield.
- PHIPP: Reginald Arthur Hyatt; The Poplars, Rowde, Devizes, Wilts [*Master*: Mr. W. H. Stanley].
- PINSENT: Cecil Ross; 16, Maresfield Gardens, Fitzjohn's Avenue, N.W. [*Master*: Mr. W. Wallace].
- PRENTICE: Robert Russell; The School House, Highgate, N. [Highgate School].
- PRYOR: Ernest Langman; 28, South Street, Greenwich, S.E. [*Master*: Mr. A. Roberts].
- PURSGLOVE: Archibald; 7, Gibson Road, Heaton Moor, near Stockport [*Master*: Mr. E. W. Leeson].
- RAINGER: Herbert Thompson; 9, Bath Place, Cheltenham [Dean Close School, Cheltenham].
- REID: James; Beechwood Terrace, Dalmarnock, Glasgow [*Masters*: Messrs. Thomson & Turnbull].
- RIGBY: Alfred; c/o Jesse Horsfall, Esq., 4, Chapel Walks, Manchester [*Master*: Mr. Jesse Horsfall *].
- ROBINSON: Kenneth Duncan Stuart; 7, Carteret Street, Queen Anne's Gate, Westminster, S.W. [*Master*: Mr. Robinson].
- ROE: Cyril Kenneth; 80, Lexham Gardens, Kensington, W. [High School, Newcastle, Staffs.].
- ROWE: Percy John; High Street, Marlow-on-Thames [*Master*: Mr. C. H. Worley *].
- SAUNDERS: Francis Southouse Morley; 10, Nottingham Terrace, York Gate, N.W. [*Masters*: Sir Arthur Blomfield & Sons *].
- SCRIVENER: Alwynne Twyford; The Mount, Endon, Stoke-on-Trent [*Masters*: Messrs. R. Scrivener & Sons].
- SMITH: John; 35, Bondgate Without, Alnwick [*Master*: Mr. W. R. Hindmarsh].
- SMITH: Walter John; 64, Mount Ararat, Richmond, Surrey [Hampden Gurney School].
- SNOW: Alan Leslie; Camden Rise, Chislehurst, Kent [Polytechnic, Regent Street].
- STENNER: William James; 129, Chesterfield Road, St. Andrew's Park, Bristol [*Masters*: Messrs. Drake & Pizey].
- STREET: Arthur William; 37, Hamilton Square, Birkenhead, Cheshire [*Master*: Mr. T. T. Rees *].
- STURGESS: Alfred Dawson; 26, Burghley Road, Kentish Town, N.W. [*Master*: Mr. Clyde Young *].
- TAYLOR: Charles Norman; Clovelly, Prestwich Park, near Manchester [*Masters*: Messrs. Woodhouse * and Willoughby *].
- THOMAS: Charles Samuel; Glasfryn, Forestfach, W. Swansea [*Masters*: Messrs. J. P. Jones & Rowlands].
- THOMAS: Hugh; 115, Brynhyfryd, Swansea [*Master*: Mr. W. W. Williams].
- THOMAS: Percy Edward; Tynedale House, Windsor Road, Penarth [*Master*: Mr. E. H. Bruton *].
- THOMPSON: James Osbert; Ebor House, Poppleton, near York [Messrs. Hornsey & Monkman].
- THORP: Ralph Windsor; Chadcote, Burton Crescent, Headingley, near Leeds [Bootham School, Yorks].
- THUNDER: Charles; 181, Cromwell Road, S.W. [*Master*: Mr. E. J. Stubbs].
- TRAVERS: Wilfrid Irwin; 2, Phillimore Gardens, Kensington, W. [Uppingham School].
- VARDY: Charles Alfred Silver; 8, Craufurd Rise, Maidenhead [*Master*: Mr. C. A. Vardy].
- VAUX: Norman; 22, Laurie Park Road, Sydenham [King's College School, Wimbledon Common].
- VINCENT: Edwin Arthur Joseph Augustus; 48, Guildford Street, Chertsey, Surrey [*Master*: Mr. Frank E. Smee].
- WAGSTAFF: Alexander; 42, Old Dumbarton Road, Glasgow, W. [*Masters*: Messrs. John McKissack & Son].
- WALKER: Ewart G.; The Avenue, Church Road, Upper Norwood, S.E. [*Master*: Mr. George Lethbridge *].
- WALKER: Frank Hugh; The Gables, Windermere, Westmorland [*Master*: Mr. Robert Walker *].
- WALTON: William Billington; 16, Alexandra Road, South Shore, Blackpool [*Master*: Mr. Herbert Wade].
- WEBSTER: Frank H.; Gablehurst, Unthanks Road, Norwich [*Master*: Mr. E. T. Boardman *].
- WEST: James Grey; 170, Cathedral Road, Cardiff [*Master*: Mr. Edgar G. C. Down *].
- WILSON: Edward Latham; 113, Hampton Road, Southport, Lancashire [*Master*: Mr. Goodwin S. Packer].
- WOOD: George Arthur; Greenside House, Gillington, Bradford, Yorks [*Masters*: Messrs. Adkin & Eill *].
- WOODCOCK: Richard Stanley; Sunnymeade, Aldeburgh-on-Sea, Suffolk.
- WREN: Edward Lancelot; 94, Sparkenhoe Street, Leicester [*Master*: Mr. Albert Herbert *].

The asterisk (*) denotes members of the Institute.

Intermediate.

The Intermediate Examination, qualifying for registration as *Student R.I.B.A.*, was held in London and the provincial centres indicated below on the 11th, 12th, 13th, and 14th June. Eighty-seven candidates were examined, with the following results:—

	Number Examined	Passed	Relegated	Failed
London	58	38	19	1
Bristol	7	2	5	—
Manchester	11	5	6	—
Newcastle	7	3	4	—
York	4	2	2	—
	87	50	36	1

The successful candidates, who have been registered as Students, are as follows, the names being given in order of merit as placed by the Board of Examiners:—

- DANNATT: Percy Boothroyd [*Probationer* 1897]; Lyndale, Westcombe Park Road, Blackheath, S.E. [*Master*: Mr. Alfred Roberts].
- BROCKLESBY: John Sydney [*Probationer* 1897]; Fairlawn, Kingston Road, Merton, Surrey [*Master*: Mr. Frank E. Smee].
- GREIG: Baxter [*Probationer* 1897]; "Fifeshire," 183, Dulwich Grove, Dulwich, S.E. [*Master*: Mr. A. Burnell Burnell *].

- GUNN: Edwin George Harry [*Probationer* 1899]; 18, Larch Road, Cricklewood, N.W. [*Master*: Mr. W. A. Finch].
- MAITLAND: Andrew Gordon [*Probationer* 1899]; Academy Street, Tain, N.B. [*Master*: Mr. James Maitland].
- GREENWOOD: William [*Probationer* 1900]; 13, Feilden Street, Blackburn [*Masters*: Messrs. Simpson & Duckworth].
- BELFRAGE: James Herbert [*Probationer* 1897]; 9, Trafalgar Square, Chelsea, S.W. [*Master*: Mr. Hippolyte J. Blanc *].
- LONGDEN: Reginald Thelwall [*Probationer* 1899]; Dalehall, Burslem [*Masters*: Messrs. R. Scrivener & Sons].
- ARCHER: Edward Percy [*Probationer* 1897]; Fairlea, Etchingham Park, Church End, Finchley, N. [*Master*: Mr. E. A. E. Woodrow *].
- QUIGGIN: Edgar [*Probationer* 1900]; Tunstall, Merrilocks Road, Blundellsands, Liverpool [*Master*: Mr. Henry Hartley *].
- RYLE: Herbert [*Probationer* 1900]; 110, Clumber Street, Newcastle-on-Tyne [*Masters*: Messrs. Armstrong & Wright].
- CALLOW: Charles Fry [*Probationer* 1899]; 71, London Road, St. Leonard's-on-Sea [*Master*: Mr. A. Wells *].
- BLACK: Herbert [*Probationer* 1900]; 51, Stanley Gardens, Hampstead, N.W. [*Master*: Mr. Banister F. Fletcher *].
- AMEHY: Thomas Ford [*Probationer* 1897]; 29, Durham Road, Sheffield [*Masters*: Messrs. Gibbs * & Flockton *].
- BROWN: William Edward Arthur [*Probationer* 1899]; 7, Carey Residences, Vincent Square, S.W. [*Master*: Mr. George A. Lansdown].
- FLETCHER: John Alfred [*Probationer* 1895]; 104, Stretton Road, Leicester [*Master*: Mr. W. H. Simpson].
- DELBIDGE: William John [*Probationer* 1899]; 40, Egerton Road, Greenwich, S.E. [*Master*: Mr. Harold Busbridge].
- BRIDGES: Sydney [*Probationer* 1898]; 30, Wickham Road, St. John's, S.E. [*Master*: Mr. George Elkington *].
- GORDON: Henry Percy [*Probationer* 1894]; 7, Highbury Quadrant, N. [*Masters*: Messrs. Gordon * & Gunton *].
- RIDER: Harry Edwin [*Probationer* 1896]; Woodstock, 119, Haverstock Hill, N.W. [*Master*: Professor Beresford Pite *].
- ELKINGTON: George Leonard [*Probationer* 1898]; 95, Cannon St., E.C. [*Master*: Mr. George Elkington *].
- WYLIE: Richard [*Probationer* 1900]; 20, Wilberforce Terrace, Gateshead [*Masters*: Messrs. Cuckett * & Burns-Dick].
- PAGE: George Montague [*Probationer* 1897]; The Longdales, Greetwell Road, Lincoln [*Master*: Mr. Gilbert S. Doughty].
- PRITCHARD: Henry Melancthon [*Probationer* 1900]; 153, Mackintosh Place, Roath, Cardiff [*Masters*: Messrs. J. P. Jones Richards & Budgen *].
- RAYMOND: James Owen [*Probationer* 1896]; Langdon Street, Tring [*Master*: Mr. J. Nicholson Johnston *].
- SALOMONS: Gerald Sanville [*Probationer* 1899]; 78, King Street, Manchester [*Masters*: Messrs. Salomons * & Steinthal].
- GREEN: Jordan [*Probationer* 1900]; 33, South Road, Handsworth, Birmingham [*Masters*: Messrs. Oliver Floyd & Salt].
- NEWTON: Francis Giesler [*Probationer* 1900]; Mountfield, Burwood Park Road, Walton-on-Thames [*Masters*: Messrs. Niven * & Wigglesworth *].
- TOOP: Frank John [*Probationer* 1899]; 15, Avondale Street, Lincoln [*Masters*: Messrs. W. Watkins * & Son *].
- BROOKS: William Edward [*Probationer* 1900]; 7, Norris Street, Haymarket, W. [*Master*: Mr. Charles A. Daubeny *].
- DRURY: Howard Dru [*Probationer* 1899]; Maisonette, Woodville Road, Blackheath, S.E. [*Master*: Mr. Edw. Dru Drury *].
- WALKER: Edward Holsworth [*Probationer* 1899]; 51, Stanley Gardens, Hampstead, N.W. [*Masters*: Messrs. Keith D. Young * and Henry Hall *].
- LUCAS: Frederick James [*Probationer* 1899]; 8, Findon Road, Shepherd's Bush, W. [*Masters*: Messrs. Colson, * Farrow * & Nisbet *].
- ARCHIBALD: Richard James [*Probationer* 1899]; 53, Nunmill Street, Seacroft Road, York [*Master*: Mr. Robt. Moore].
- WARTH: Albert Frederick [*Probationer* 1899]; c/o Messrs. Reading & Andrews, 95, Colmore Row, Birmingham [*Masters*: Messrs. Reading * & Andrews *].
- WATSON: William Pilkington [*Probationer* 1896]; Brinklow Rectory, Coventry [*Master*: Mr. Edward Burgess].
- HOSSACK: Ian Andrew [*Probationer* 1898]; St. Catherine's, Banff, N.B. [*Master*: Mr. Arthur Clyne *].
- CAMPBELL: Archibald Niel [*Probationer* 1900]; Lansdowne, Hampton-on-Thames [*Master*: Mr. T. E. Colcutt *].
- BOYLE: Joseph [*Probationer* 1898]; Court Chambers, 15, Mawdsley Street, Bolton, Lancs. [*Masters*: Messrs. Cunliffe & Pilling *].
- BUCKLEY: Harry Francis [*Probationer* 1898]; Cairn Lea, Stafford Road, Halifax [*Masters*: Messrs. George Buckley & Son].
- CORFIELD: Frederick John Arthur [*Probationer* 1896]; 19, Savile Row, W. [*Masters*: Messrs. Ernest George * & Yeates *].
- DRUMMOND: Bertram [*Probationer* 1897]; 29, Preston Street, Fleetwood [*Masters*: Messrs. T. A. Drummond & Sons].
- ELMS: Edward Furness Marson [*Probationer* 1897]; 16, Buckingham Palace Road, Buckingham Gate, S.W. [*Master*: Mr. H. O. Cresswell *].
- FORSTER: Frank Jamieson [*Probationer* 1897]; Harewood Hill, Darlington [*Master*: Mr. W. J. Moscrop *].
- GOFF: Edgar Thomas [*Probationer* 1899]; Hollywood, Park Road, Lowestoft [*Master*: Mr. W. J. Roberts].
- LOADES: Leonard Arthur [*Probationer* 1897]; North Field House, Morpeth [*Master*: Mr. James T. Cackett *].
- MANCHIP: Herbert John [*Probationer* 1899]; 17, Zetland Road, Bristol [*Master*: Mr. G. H. Oatley *].
- SALISBURY: Stanley [*Probationer* 1898]; Limbrick Hall, Harpenden, Herts [*Master*: Mr. E. B. Burch].
- SHEARER: James Hugham [*Probationer* 1900]; 8, Bartholomew Terrace, Exeter [*Master*: Mr. F. J. Commin].
- WATKINS: William Henry [*Probationer* 1899]; Alderley Villa, St. George, Bristol [*Master*: Mr. F. Bligh Bond *].

The asterisk (*) denotes members of the Institute.

Final and Special.

Final and Special Examinations, qualifying for candidature as *Associate R.I.B.A.*, were held in London from the 21st to 28th June. Of the fifty-five candidates admitted, thirty-two passed, and twenty-three were relegated to their studies. The successful candidates are as follows:—

- ALDWINCKLE: Thomas Wilson [*Probationer* 1894, *Student* 1895]; Saratoga, Dacres Road, Forest Hill, S.E.
- BISHOP: John Percival [*Probationer* 1896, *Student* 1897]; Kline House, London Road, Forest Hill, S.E.
- BRIDGEN: Charles Henry Edward [*Probationer* 1895, *Student* 1897]; 25, Calthorpe Street, W.C.

BRUNDRIT: Dean John [*Special Examination*]; 18, Seton Road, New Brighton, Cheshire.
 CAYLEY: Henry, M.A. Cantab. [*Probationer* 1895, *Student* 1897]; 77a, Grove Lane, Denmark Hill, S.E.
 CLAPHAM: Frederick Dare [*Special Examination*]; Fryern House, Eltham, Kent.
 DAWSON: William Bruce [*Special Examination*]; 6, Old Queen Street, S.W.
 DAY: Harry Daborn [*Probationer* 1892, *Student* 1894]; Railway Approach, Godalming.
 DEAN: William Mackereth [*Probationer* 1896, *Student* 1899]; Park Place, Gravesend.
 DETMAR: Lionel Gordon [*Probationer* 1896, *Student* 1899]; Hazeldean, Sutton, Surrey.
 DINWIDDY: Tom Norman [*Probationer* 1893, *Student* 1895]; Greenwich, S.E.
 ENSOR: Leonard William [*Probationer* 1898, *Student* 1900]; Rydal Mount, Birkly, Huddersfield.
 GAGE: Charles Henry [*Probationer* 1894, *Student* 1896]; Lindis House, East Acton, W.
 GAMMELL: Kensington [*Probationer* 1895, *Student* 1897]; 8, New Inn, Strand, W.C.
 GREGORY: Leolin Charles [*Probationer* 1895, *Student* 1897]; 29, Shaftesbury Road, Ravenscourt Park, W.
 HALL: Charles Llewellyn [*Probationer* 1895, *Student* 1896]; The Glyn, Whalley, Lancashire.
 HALL: John Percy [*Probationer* 1897, *Student* 1899]; 6, Victoria Grove, Kensington, W.
 HALSE: Sidney Joseph [*Probationer* 1896, *Student* 1899]; 4, Hestercombe Avenue, Fulham, S.W.
 HARDING: George Robinson Cuthbert [*Probationer* 1897, *Student* 1897]; 18, St. James's Square, S.W.
 HOLSTEAD: Abraham [*Probationer* 1897, *Student* 1898]; 50, Narrowgate, Alnwick, Northumberland.
 KING: Edward Vincent [*Probationer* 1893, *Student* 1895]; 7, Belgrave Terrace, South Shields.
 MACKENZIE: Alexander George Robertson [*Probationer* 1894, *Student* 1898]; 55, Queen's Road, Aberdeen.
 PAGE: Ernest Godfrey [*Special Examination*]; 4 & 5, Warwick Court, W.C.
 PICKUP: Arthur [*Probationer* 1895, *Student* 1897]; 31, Azalea Road, Blackburn.
 POWER: Cyril E. [*Special Examination*; *Soane Medallist* 1900]; Rugby Chambers, Bedford Row, W.C.
 PRYKE: Louis Edward [*Probationer* 1894, *Student* 1897]; 14, Paragon Grove, Surbiton, Surrey.
 PULLAR: Edgar John [*Probationer* 1894, *Student* 1898]; 111, Denmark Hill, S.E.
 ROE: Arthur Henry [*Probationer* 1893; *Student* 1897]; 200, Romford Road, Forest Gate, E.
 ROWELL: Reginald Bertie [*Probationer* 1893, *Student* 1896]; Edenhurst, 66, Elms Road, Clapham Common, S.W.
 STRETTON: Clement [*Probationer* 1893, *Student* 1900]; Saxe-Coburg House, Leicester.
 WALKER: John George [*Probationer* 1894, *Student* 1896]; College Grove, Wakefield.
 WRINCH: Raymond Cyril [*Probationer* 1896, *Student* 1898]; Hill Crest, Ipswich.

The following table shows the number of failures in each subject of the Final Examination:—

I. Design	20
II. Mouldings and Ornament	13
III. Building Materials	2
IV. Principles of Hygiene	2
V. Specifications	5
VI. Construction (Foundations)	3
VII. Construction (Iron and Steel)	3

The R.I.B.A. Colonial Examinations.

A Special Examination, qualifying for candidature as Associate R.I.B.A., was held in Montreal

and Sydney simultaneously with, and on the same Papers as those set for, the Final and Special in London. The local arrangements for Montreal were in the charge of Mr. A. T. Taylor [*F.*], Hon. Sec. R.I.B.A. for Canada, and those for Sydney in the charge of Mr. G. Sydney Jones [*A.*], Hon. Sec. New South Wales Institute. The results will be announced in a future issue.

The Standing Committees.

The following appointments to the four Standing Committees have been made by the Council under By-law 46:—

Art.—Sir L. Alma-Tadema, B.A., *Hon. Fellow*; Mr. H. W. Brewer, Mr. T. Raffles Davison, Mr. George Frampton, A.R.A., *Hon. Associates*; Mr. H. Heathcote Statham, *Fellow*.

Literature.—Mr. Francis Bond, M.A., Mr. J. D. Crace, Dr. A. S. Murray, Colonel Lenox Prendergast, *Hon. Associates*; Mr. J. Humphreys Jones, B.A., *Associate*.

Practice.—Mr. C. Fitzroy Doll, Mr. F. E. Eales, Professor Beresford Pite, *Fellows*; Mr. Edward Greenop, Mr. Sydney Perks, *Associates*.

Science.—Sir Alexander Binnie, Mr. F. N. Jackson, Mr. Hugh Leonard, F.S.A., Mr. A. T. Walmisley, *Hon. Associates*; Mr. Lewis Solomon, *Fellow*.

The Architectural Association.

Mr. A. T. Bolton [*A.*], *Soane Medallist* 1893, *Inst. Medallist (Essays)* 1895, has been appointed Master in the Day School for architectural students about to be established at the Architectural Association.

Honours for an English Architect in Italy.

Mr. William Scott (*Soane Medallist* 1877), formerly resident in Venice and now practising at Bordighera, has been nominated, by the King of Italy, Knight of the Order of the Crown of Italy (*Cavaliere Ufficiale della Corona d'Italia*). According to the *Corriere Ligure*, the local newspaper, the prefectorial delegate of Bordighera, Signor Mainetti, attended on the 20th June last at Mr. Scott's villa (Ca Palmerino) by direction of the Minister for Foreign Affairs, and presented him with the cross of the Order.—JOHN HEBB.

Obituary.

Mr. William Larnar Sugden, head of the firm of Sugden & Son, architects, of Leek, who died on the 18th ult., had been a Fellow of the Institute since 1892. He was born in Leek in 1850, the eldest son of Mr. Wm. Sugden, founder of the firm. Educated at Leek Grammar School, he joined his father in business in 1881, and since 1892 had been wholly responsible for the firm's transactions. In 1895 he was appointed surveyor to the Stoke-on-Trent District Council, and also engineer of the Bucknall Sewage Scheme. Works carried out by him in his native town, either alone

or in conjunction with his father, include the Nicholson Institute, District Bank, Police Station, Post Office, Mechanics' Institution, Congregational and Brunswick Chapels, Cottage Hospital, Black's Head, the Technical Schools, and numerous other buildings in the town and neighbourhood. Mr. Sugden was on the committee of the Society for the Protection of Ancient Buildings.

The death is regretfully recorded of Mr. Henry Richard Yeoville Thomason, Fellow since 1862, who died on the 16th inst., aged 75 years. A notice of his career is held over for the next issue.

REVIEWS.

POOR LAW BUILDINGS.

Hints and Suggestions as to the Planning of Poor Law Buildings, including some Recommendations as to the Arrangement and Construction of Separate Accommodation for the Children of the Indoor Poor, and some Remarks upon the Accommodation that may have to be provided for the Imbecile and Idiot Poor, as well as for the Epileptics at present in the Extra-Metropolitan Workhouses. By Percival Gordon Smith, F.R.I.B.A., F.S.I., late Architect to the Local Government Board. 80. Lond. 1901. [Messrs. Knight and Co., 4 La Belle Sauvage Yard, E.C.]

Those who have had the good fortune to submit drawings for the approval of the Local Government Board will have retained an agreeable recollection of the kind and able manner in which Mr. Gordon Smith criticised their works, and the valuable suggestions that he gave, doing his spiriting so gently that one left the building with the impression that all the suggested alterations were improvements.

Mr. Gordon Smith has resigned his appointment at the Local Government Board, and has published a book on *Hints and Suggestions as to the Planning of Poor Law Buildings*.

The desire to assimilate the lot of pauper children to poor children outside the pale of the Poor Law has led the Committee on the Cottage Homes Bill 1899 to make definite recommendations that all children should be removed from workhouses, and that imbeciles and epileptics shall no longer occupy space in workhouses, but should be provided for elsewhere by the County Councils. These recommendations will necessitate the erection of new buildings, and this book gives many valuable suggestions on the subject of buildings for these classes, on which at present the Local Government Board has laid down absolutely no rules. The buildings for children are divided up into scattered houses and grouped houses, and these again are divided into families of fifteen or less children in each home, and groups of fifty or sixty children in each block to hold such groups. Mr. Gordon Smith suggests that more pauper boys might be trained for the Navy or Mercantile Marine; at present only one ship, the *Exmouth*, is utilised for this purpose under the Poor Laws.

With regard to cottage homes for children he

thinks fifteen children too high a number, and suggests ten or twelve as a better size for a home family. It is well to remember with regard to the size of the family that it is much easier to get a foster-mother who can control ten children than one who can manage twelve or fifteen children in a family.

When a number of cottage homes are grouped together on an estate so as to form a sort of institution, the number of children thus provided for must be limited to three hundred. The area of land required for buildings, the supply of water, treatment of sewage and lighting are all carefully dealt with. Comparing the relative cost of cottage homes and blocks of buildings holding some forty or fifty children, Mr. Gordon Smith considers the construction of such blocks would be more costly per head, and practically little saving in staff would be effected.

The buildings for imbeciles and epileptics, if the recommendations of the Committee on the Cottage Homes Bill 1899 be adopted, will be under the control of the County Councils, with the Lunacy Commissioners as the central controlling authority, and the tendency may possibly be to follow the lines of the ordinary lunatic asylum. Mr. Gordon Smith thinks that the general arrangement of modern lunatic asylums leaves much to be desired. "The several blocks in the modern asylum, including the sick wards, are usually so linked together by means of corridors and are placed in such close proximity to each other that the important principle of separate pavilions which was originally established for hygienic reasons has practically disappeared almost entirely. A further point is that some of the dormitories even in the latest asylums are formed to hold three and four rows of beds. This arrangement was definitely objected to by the Cubic Space Committee in 1867, and for several years past the Local Government Board have refused to sanction plans showing dormitories for more than two rows of beds." The hints made for dealing with accommodation for imbeciles and epileptics are carefully worked out. The book concludes with extracts from the memorandum entitled "Points to be Attended to in the Construction of Workhouse Buildings," the text being carefully annotated. The experience of many years' careful attention to the special buildings is here crystallised into most valuable hints and suggestions.

Mr. Gordon Smith's advice on the subject of competitions and the selection of architects should be of great assistance to Boards of Guardians who have to build; and the recommendations he gives to architects on the subject of ventilation, lighting and boilers are most practical. The book, indeed is one that should be in every architect's office, whether his practice includes poor law work or not: the principles so clearly laid down in the work are applicable to all kinds of buildings.

H. D. SEARLES-WOOD.

PLANNING.

The Principles of Planning: An Analytical Treatise for the use of Architects and others. By Percy L. Marks, Architect, illustrated by eighty plans of various types of buildings. 8s. Lond. 1901. Price 6s. net. [B. T. Batsford, 94, High Holborn, W.C.]

By what means the general public can be induced to take a livelier interest in things architectural is a problem which many have endeavoured to solve. To attribute their indifference to the lack of artistic merit shown by too many of the buildings by which they are surrounded is to credit them with a critical faculty which they do not possess. And it is to be feared that little improvement can be looked for in this respect until the study of architecture finds its place in the curriculum of a liberal education. But if the general public, for want of artistic training, are unable to understand, and consequently to appreciate, the merits of an elevation, they are at least more or less competent to criticise the arrangement of the plan of a building; and this because, in regard to the houses in which they live, or the buildings which they frequent for business, pleasure, or worship, it requires comparatively little culture to perceive whether comfort and convenience—two of the fundamental qualities in successful planning—have been secured. It is of vital importance, therefore, for the credit of the profession, to see that no reasonable ground for dissatisfaction be given in these respects, and our students cannot be too strenuously urged to devote as much serious study to the art of planning as they are wont to give to that of design and construction. The need for repeatedly emphasising this advice is evidenced by the failure in regard to their planning of so many buildings which, in other respects, possess undoubted artistic excellence; and the student who applies himself zealously and patiently to this branch of design may be encouraged by the reflection that, even if he does not possess the genius necessary to become a master of the art, he will at any rate achieve considerable success, and deserves well of his generation, if he but avoids those errors which are so commonly met with.

Any book which, like the one under consideration, assists the student in this branch of study deserves cordial welcome. Mr. Marks must be congratulated on having schemed his work on decidedly original lines. It commences with a clear enunciation of the broad principles upon which all planning is based, and proceeds to apply those principles in detail to the various kinds of buildings which are encountered in ordinary practice. Of these there is scarcely any distinct variety which is not dealt with more or less fully, and, in regard to most of them, much useful information is given. But, like many other text-books which are addressed both to the student and to the practitioner, it has the defects of its merits. For the student it needs amplifi-

cation, for the practitioner it requires condensation; for both the addition of an appendix of tabulated data, arranged for easy reference, would be of considerable assistance. The book is copiously illustrated with plans of typical buildings to a sufficiently large scale to render them intelligible. For permission to reproduce these Mr. Marks is indebted to a variety of authors. This feeling of obligation probably accounts for his unwillingness to criticise them, and yet without criticism they lose their chief usefulness. As they are for the most part plans of executed buildings, they naturally give evidence of the difficulties and limitations under which, as with all work in practice, they were evolved. Unless put on his guard, the student might consider these models for imitation, even where no such difficulties exist. As has been said, the book possesses decided originality, and evidences much thought. If, when a new edition is called for, the opportunity is taken to make it still more concise, and the suggested appendix of tabulated data is added, it should become a valuable book of reference.

HERBERT A. SATCHELL.

LEGAL.

Drains Necessary for Effectual Drainage.

MATTHEWS V. STRACHAN.

This was a case stated by justices for the opinion of the High Court, which was heard before Mr. Justice Ridley and Mr. Justice Bigham in the King's Bench Division on the 20th June.

An information was laid by the respondent Strachan, as clerk to the Harrow Urban District Council, against the appellant for erecting a house in Lyon Road, Harrow, without constructing such covered drains thereto as on the report of the council's surveyor appeared to the council necessary for the effectual drainage of such house, contrary to section 25 of the Public Health Act 1875. Two sewers have been laid by the council in Lyon Road North, within 100 feet of the site of the house, one for the reception and conveyance of surface water only, the other for the reception and conveyance of sewage only. Before erecting the house the appellant deposited plans of it in accordance with by-laws made under section 157 of the Public Health Act 1875. The council's surveyor made a report to the council that the requirements for the effectual drainage of the house were: (a) One main drain of not less than 4 inches internal diameter, for conveying sewage only, to be . . . connected to the council's sewage sewer; (b) one main drain of not less than 4 inches internal diameter, for conveying surface water only, to be . . . connected to the council's surface-water sewer. The council took into consideration and, after considerable discussion, passed a resolution approving the appellant's plans, subject to the requirements contained in the above report as to the drainage of the house being carried out. Upon the following day the respondent wrote to the appellant enclosing a copy of the surveyor's report and calling upon the appellant to lay the drains in accordance with that report. The defendant did not lay two drains as required by the notice and report, but one only in the manner shown in his deposited plans. The council's surveyor was called as a witness before the justices. He admitted that the drain laid by the appellant would have been perfectly effectual if there had been only one sewer in Lyon Road, and that his reason for reporting that separate drains ought to be

laid, one for sewage only and one for surface water, was that it was desirable, with a view of facilitating the ultimate disposal of sewage by the council, that sewage only should be discharged into the sewage sewer and surface water only into the surface-water sewer, and that there were separate sewers for sewage and for surface water in Lyon Road. The justices held that they had no power to question the reasonableness of the requirements for the effectual drainage of the house, and convicted the appellant.

Mr. A. F. Jenkin (Mr. R. A. McCall, K.C., with him) for the appellant; Mr. S. G. Lushington (Mr. A. Macmorran, K.C., with him) for the respondent.

The Court held that the justices were wrong. Section 25 of the Act empowered the local authority to take into consideration certain matters, and only certain matters, for the purpose of satisfying themselves whether the drain proposed was effectual for draining the house—viz. the size, material, level, and fall. If matters beyond the requirements of the section were asked for, it was in effect asking the owner of the house to subscribe to a general system of drainage. That was not the intention of the Act. The decision of the justices must be reversed.

The *Law Journal*, from which the above report is quoted, commenting on this case, says that it is doubtful whether the local authority can validly make any by-laws to get over the effect of this decision; that the decision will be found a serious impediment to the construction of effective modern systems of sewerage.

Building used partly for Trade and partly as a Residence.

DICKSEE v. HOSKINS.

This was an appeal from the judgment of a Divisional Court (the Lord Chief Justice and Mr. Justice Lawrence) on a special case stated by a metropolitan police magistrate on allowing an appeal under the London Building Act, 1894, from a notice of objection to a proposed building served by the appellant, who was a district surveyor under the Act, upon the respondent, who was a builder. The appeal came before the Court of Appeal (the Master of the Rolls, Lord Justice Vaughan Williams, and Lord Justice Stirling) on the 8th July. The case before the magistrate is reported in the present volume, at p. 48; and in the Divisional Court, at p. 332. The question was whether the proposed building was one to which section 74, subsection 2, of the London Building Act applied. That subsection provides as follows:—"In every building exceeding ten squares in area used in part for purposes of trade or manufacture and in part as a dwelling-house the part used for purposes of trade or manufacture shall be separated from the part used as a dwelling-house by walls and floors constructed of fire-resisting materials." The proposed building was the re-erection of a licensed beerhouse on the site of an old beerhouse called the *Horse Shoe*. It would, when built, exceed ten squares in area, and was intended to contain—in the basement, beer and wine cellars; on the ground floor, a bar, public lobby, saloon bar, private bar, parlour, and a public room; on the first floor, a sitting room, three bed rooms, and a kitchen; and on the top floor, attics. It was intended to be licensed and used for the sale of wine and beer to be consumed on or off the premises under the Beerhouse Act 1830, and the Refreshment-House Act 1860. The trade of the beerhouse was to be carried on in the basement and ground floor, and the licensee and his family were to reside in the upper floors of the building. The whole of the building was to be covered by the justices' certificate and Excise licence. The floors separating the ground floor from the first floor and the staircase leading to the first floor were not intended to be constructed of fire-resisting materials, and the learned magistrate found that, if subsection 2 of section 74 of the London Building Act applied to the building, the provisions of that section would be contravened. The learned magistrate also found as a fact that the basement and

ground floor of the building were intended to be used for the purposes of the trade of a beerhouse, and that the part above the ground floor was intended to be used as a dwelling-house for the licensed occupier, but held that the case was governed by the decision in *Carritt v. Godson* (JOURNAL R.I.B.A., Vol. VI. [1899], p. 460), and allowed the appeal and overruled the objection of the district surveyor. The district surveyor appealed to the Divisional Court, and they dismissed the appeal. He now appealed to the Court of Appeal.

Mr. Ivory, K.C., and Mr. Rowsell for the appellant; Mr. Danckwerts, K.C., and Mr. Craies for the respondent.

The Master of the Rolls said that, personally, he did not agree with the findings of fact found by the learned magistrate, but he was bound by them. The magistrate seemed to him to be inconsistent in finding as he had done and also holding that the case was governed by *Carritt v. Godson*. But, accepting the findings, it followed of necessity that the appeal must be allowed.

Lord Justice Vaughan Williams said he concurred reluctantly.

Lord Justice Stirling also concurred.

Building Line.

LONDON COUNTY COUNCIL v. ELLIS.

On the 12th July Mr. R. Cunningham Glen, before Mr. Justice Darling and Mr. Justice Phillimore in the King's Bench Division, moved on behalf of Mr. James Ellis for an order calling upon Mr. d'Eyncourt, the Metropolitan police magistrate, to show cause why he should not state a case for the opinion of the King's Bench Division. Two summonses had been issued by the London County Council against Mr. Ellis under the London Building Act 1894, for erecting a building beyond the general line of buildings. Mr. Ellis had an old building at the place in question, and he proceeded to erect two other buildings, but objection was taken that if he erected them as a separate structure he would be contravening the Act by building beyond the building line. He then made what amounted to an extension of the old building, but the magistrate found that there were really two buildings, and he ordered the demolition of the new one. If it was an extension of the old building its erection did not contravene the London Building Act. The magistrate held that the point was a frivolous one, and he refused to state a case, but counsel submitted that it was not, and that the magistrate should be ordered to do so.

Mr. Justice Darling said that there must be no rule. The applicant was the owner of an old building, and at the place in question there was a building line. He tried to put up some new shops to the right of the old building on a vacant piece of ground, but it was pointed out that, if he did so, he would get beyond the building line. He discontinued that, and then proceeded by beginning at the old building, and he attached the new building to the old and said that he was laterally extending the old building. The magistrate decided against the builder, and declined to state a case on the ground that the point that this was only an extension was frivolous. His Lordship thought it frivolous in a legal sense, and it was also frivolous in a dramatic sense; in fact it was comic.

Mr. Justice Phillimore concurred.

The matter being taken to the Court of Appeal was heard by the Master of the Rolls, Lord Justice Vaughan Williams, and Lord Justice Stirling on the 15th July. The Master of the Rolls said: The matter is of great importance to Mr. Ellis because it involves the pulling down of a building which has been erected. For this reason we think that a rule *nisi* should be granted calling upon the magistrate to show cause why he should not state a case for the opinion of the High Court. But we do not say whether the points intended to be raised are or are not frivolous. When the rule comes on for argument it will be open to the other side to show that the points are frivolous.

RIGHTS AS TO SEWAGE.—PART II.*

By ALGERNON BARKER, Barrister-at-law (Newcastle-on-Tyne).

SEVEN CONDITIONS AS TO HOME SEWERS.—Section 21 of the Public Health Act, which gives the right of emptying drainage into your own local authority's sewers, runs as follows:—"The owner or occupier of any premises within the district of a local authority shall be entitled to cause his drains to empty into the sewers of that authority" on three conditions. "Premises" may by section 4 be a pigsty or a park; see note (d) in Part I. *ante*, p. 379, and note (a). Observe the word "local authority," which comprises urban and rural authorities, and the word "drains," which does not include sewers. The conditions to connecting are:—

(1) Such notice as the local authority may require.

(2) Compliance with its regulations as to connecting drain with sewer.

(3) Compliance with the orders of its delegate as to connecting drain with sewer.

Under the general law there will be two further conditions:—

(4) Not to commit nuisance.

(5) Not to trespass.

Also, if the sewer of the local authority is fouling a watercourse so as to contravene the Rivers Pollution Prevention Act, there will under section 8 of that Act be another, viz.:

(6) The sanction of the local authority.

And lastly, if we have a new house (see (g), first part of lecture) a hundred or more feet from a sewer in an urban district, there may be another, viz.:

(7) That in certain circumstances to be detailed in my next lecture ("Duties: Penal Method") we can only connect with a sewer if not commanded to do otherwise (sections 23 and 25).

Notice.—I regret to have to say that the notice required by the local authority may be unreasonably long; reasonable shortness is not implied in construing an enactment requiring notice. It has been held that by-laws to an effect similar to this section would have the result of delaying a builder for an unconscionable length of time, and so, I presume, would this section—*Rudland v. Sunderland*, *Veitch v. Newcastle* (b). If the authority do specify the length of notice they require, this might perhaps amount to an undertaking either that their official will come and give orders on its expiration, or that, if he does not, you may without fear proceed with your con-

nections. (See *A.-G. v. Hatch*, and cases as to delay in prescribing building lines.) If no notice is specified, then I presume that you need give none.

Regulations and Orders.—"Regulations" is a wide word, and will include not only local and other Acts and by-laws (if any), but also various informal but written rules laid down generally for the district (section 188). The regulations above mentioned, whatever they are, include those only which relate to communications with sewers—*e.g.*, a direction as to the mode in which to insert the pipe into a brick sewer, and the method of damming up a pipe-sewer so as to interpose a new joint. Or they may forbid us to take a joint out of the sewer pipe, or instruct us not to point our drain pipe against the flow, or prescribe to a reasonable extent the size of the aperture of our drain; but they should consist solely of rules suited to the general requirements of the district as to modes of coupling drain and sewer. The *informal* regulations can attach no extra penalty. They must be made, and the orders given, with the *bona-fide* object of preventing the householder, who desires to empty his drains into the authority's system, from creating a nuisance, and from damaging the sewer, or impeding its action by his method of connecting, and the authority must not by this means attempt to get collateral advantages, or to levy blackmail (*R. v. Greenwich*). (Compare the famous telephone case in London, when the City Council tried to make a better service a condition of wayleave for wires.) Any regulation, not being part of a statute, and any order, if thus improperly made, would be void and could be disregarded. Any informal regulation, therefore, which was framed in order to prevent you from connecting a second house with some drain, and thus turning it into a sewer, would be *ultra vires*. Invalid also would be a regulation stipulating what sewer you were to use, except in this last case, where, in order to get to a sewer, you would have to cut up the surface of an authority's street or road, and less damage would be caused by your excavations if you obeyed the council. This last right of directing the drain-owner's route arises not under section 21, but under the Common Law, which, as we shall see later, when discussing "trespass," subjects to conditions his implied rights to cut up the surface in order to connect with the sewer. If the regulations are made with the proper objects as indicated above, they cannot be questioned before the justices.

* For Part I. see pp. 369 *sqq. ante*, number for 8th June. The notes to the present Part will be found on pp. 438-9 *infra*.

You have a right of appeal against these regulations and orders to the Local Government Board, under section 268, if the authority go so far as to disconnect you under section 21; but the appeal must be sent in within twenty-one days from the time that the Council so cut off the drain (see *R. v. Local Government Board*).

The authority may give us much trouble with regulations or orders, but cannot forbid us to connect at all. It is theirs to say how, but not theirs to say whether or no, except where their sewer contravenes the Rivers Pollution Prevention Act. A power to regulate does not include a power to forbid, as we see from *Brown v. Byrne*, a case as to pleasure boats in Council parks. In *Ainley v. Kirkheaton* and *Molloy v. Gray*, and also in *Brown v. Dunstable*, 1899, 2 Ch. 378, it was declared that the right to connect was an absolute right. The old repealed Public Health Act of 1848 (section 47) did indeed require consent in all cases, but the present Act carefully omits to do so.

Penalty, Disconnection, and Expenses.—The punishment for failing to give the notice required by the local authority, or for disobeying its regulations or orders, is disconnection at the drain-owner's expense and a penalty, expenses and penalty being recoverable before justices of the peace or in the County Court. I think, however, that the local authority, before demolishing your connection, should give you notice and hear your side of the question; but observe that on receiving such notice you must lose no time in demanding to be heard. (*Cooper v. Wandsworth, A.-G. v. Hooper, Gill v. Bright*, 42 J. P., 401, *Chambers' Digest*, sub "Discretion.") The Council must take proceedings to recover penalty and expenses within six months (whether claimed summarily or in the County Court), or they will be barred; but by declaring the expenses to be private improvement expenses they charge these but not the penalty on your premises and can recover them within twelve years. As to disconnection, that power is not lost until twenty years' user has given you a prescriptive right. The local authority do not lose their powers by waiver, acquiescence, or by what equity calls "standing by," for they cannot dispense with the law of the land, and their orders and regulations, having once been validly given and made, have the force of law. Except as above stated, they cannot disconnect you, for it would be very dangerous to the public health if they could do so (*A.-G. v. Acton, A.-G. v. Clerkenwell*, and especially *A.-G. v. Dorking*), (and see remarks preceding "Complaints of Insufficient Sewers" in Part III.)

No Nuisance.—The fourth condition is imposed by the General Law. The connection must not create a nuisance. It must not be attended with pollution of air or pollution of water—(v), and note (u) to Part I. post, addenda "Fisheries." As to

Water Companies, see 10 & 11 Vict. c. 17, s. 61. If, e.g., one is putting a fresh joint into the sewer so as to fix the drain into an elbow, it may be hard to avoid creating some smell or temporarily choking the sewer, but one would not be liable for unavoidable nuisance (*Molloy v. Gray*, 24 L.R., Irish, at p. 281.) Otherwise the 21st section, at least as regards pipe sewers, would be a dead letter. The drain-owner is, at any rate, not responsible for the conduct of his sewage after it has legally—i.e. after conditions 1-3, if applicable (see (u) in Part I.), are obeyed (*Molloy v. Gray*, p. 258, per Andrews)—passed into the Council's sewers; but he would be liable where, its sanction not having been obtained, he is helping the Council to contravene the Rivers Pollution Prevention Act. Do not forget, when taking up the road, to light the holes and heaps at night, as required by the Towns Improvement Clauses Act incorporated in the Public Health Act, or to restore the road when connection has been duly made (c).

No Trespass.—Another condition on which the drain-owner empties into the sewer is, that he do not trespass. Suppose a street (d) or road intervenes, then if he is a frontager he himself may own as far across as the centre line of that part of the street which runs parallel with his property, and the sewer may be on his half (*re White's Charities*, 1898 1 Ch., 659; *Micklethwaite v. Newlay*, 38 Ch., 188; and see *Dart*, ed. 6, *Vendors and Purchasers*, 412, 602) (e, f). But even if this is not so he could, as having an implied right of way under section 21, defy the person who had the freehold (g, f) in the intervening soil of the highway where it was a street (d), and possibly where it was a road, separate public footway, or bridle-path (main roads I deal with below), for otherwise the beneficial character of the section would be very much impaired (g).

But there are others to be considered beside the freeholders. The streets are vested in the local authority, but on the above principle (g) the drain owner can as against the authority excavate these in order to connect with its sewer. He would have also the same right as to roads, for there is an absolute right to connect with a sewer, and he could complain under section 299, or by analogous methods detailed later (see "Complaints of Insufficient Sewers" in Part III.), if the local authority did not sanction his connection. But what about the passers-by? Can they forbid him to make his trenches in the street? Clearly not, if the object of making the trench is the exercise of his statutory rights under section 21 of the Public Health Act. (*Edware v. Harrow Gas Company*, L.R. 10 Q.B. 92, *Hawkins v. Robinson*, 37 J. P., 662.)

Suppose, however, that the roads are *main roads* vested in the County Council. Here we must draw distinctions, for before the Local

Government Act of 1888 confided these roads to County Councils parts of them which ran through urban districts were under urban sanitary authorities, and rights to excavate in order to attain a sewer were implied against such authorities; but this was not the case as regarded those parts of them which ran through rural districts, for these were not under rural authorities, but under various quaint bodies, whom we will not call "insanitary," but who at any rate had no sanitary duties, and against whom no rights to excavate were implied by Section 21. As regards those portions of a main road which lay through a district which was urban before the Act of 1888, the County Council took these over from the urban authority subject to the rights of drain-owners against such authority. Therefore, unless perhaps (g) a road with an unwilling freeholder stands in the way, we should, I think, be free to excavate. In the case of other portions (unless the County Council is also the sanitary authority, as in a county borough), we must obtain its leave, as these were handed over unburdened by sanitary obligations, and against a County Council itself, unless it is also a sanitary authority, we have no sanitary rights. For its duties are confined to reporting as to the sanitary state of the neighbourhood, or, if it likes, in enforcing the performance of the sanitary duties of others, but do not, I think, comprise the duty of not obstructing access to sewers.

Now we come to *public parks*. If the district or town authority is the freeholder, I think that in reasonable cases one could insist on excavating. But if it is not, the freeholder's leave must be sought. If the Council has merely a right to use the park, then the sanction of the leaseholder, if there is one, as well as of the freeholder, must be obtained. Persons having rights of herbage in the park would, subject to any special agreement between the latter and any person who was entitled to object to the excavations, have no right to complain of them if one acted reasonably (see cases as to Rights of Commoners in Wastes of Manors). A *County or Parish Council Park* (in the former case where the County Council is not the sanitary authority) stands on a different basis from an authority's park, and the sanction of its guardian Council must be obtained, whatever interest it hold in the park. Of course, the sanction of all other persons interested in such a park must also be procured, except that a herbager, subject to any special agreement as aforesaid, could not complain unless one acted unreasonably.

Lastly, we come to private roads, lands, &c., and here the position may be very awkward, as the statute gives the drain-owner no right to excavate such property in order to lay his drain (*Balhard v. City Commissioners*, 54 J. P., 135). He might also possibly find that the roadside waste between him and the road did not belong

to him, and also that the public had no rights over it (h), so that it was in fact private land.

Thus, to sum up, as regards freeholders, we see that where there intervenes a part of a main road vested in a non-sanitary County Council, and which before the Local Government Act 1888 ran through a then rural district, also where public parks of which a district, town, or city council has not the freehold, and, finally, where private property bars the way to the sewer, the drain-owner has no right to excavate without the leave of the freeholders whose property intervenes, and of any other parties interested in it, herbagers usually being excepted. This is perhaps (g) the case also with regard to district council roads not being streets (d), when, as might happen (e), the person wishing to reach the sewer is not the owner of that area of the road which must be excavated if the sewer is to be attained.

We see also that, as against local authorities, section 21 gives the drain-owner the implied statutory right to cut up district property such as streets with their pavements, and also in this case undoubtedly roads with the footways at their sides, and also separate footpaths and bridle-paths and the freehold parks of local authorities, and implies the like rights against County Councils as to main roads which before the Local Government Act of 1888 had, under the Public Health Act, vested in urban sanitary authorities.

There are, however, certain conditions to the right thus to excavate. Our client must take any reasonable *route prescribed* (i) by the District or County Council which has control of the way, or, if none is prescribed, must select that which would cause least inconvenience to the public. As a matter of prudence it might be well to ascertain the wishes of the Council in this respect, so that it could not afterwards complain. Subject to this he could choose, and, on the other hand, a Council could not impose upon him a further instead of a nearer sewer, or *vice versa*.

Moreover, if the drain-owner is not the freeholder of that portion of road or street which intervenes, the freeholder's reasonable directions as to his route, so far as they do not clash with the Council's, be it District or County Council, must be obeyed. In the case of all these streets and roads we might find that they were embanked in such a manner that we could reach a sewer without, at least materially, disturbing the surface. In such a case, if the owner of the drain were himself the freeholder, or if the latter were friendly, he would hold a very strong position against all councils, even against County Councils in quondam rural main roads.

I need hardly remind you that you must not commit nuisance or cause unnecessary inconvenience. Remember, further, after dark to fence and light, and when you have laid the drain to fill up the hole. Do not open too much of the

road at a time (*Edgware v. Harrow Gas Company*).

Private land, as we have already seen, is not subject to any implied right to excavate (*Balhard v. City Commissioners*). What, then, are we to do in the cases above mentioned, where County Councils or freeholders of streets or roads, or where landowners obstruct our connection? I trust that the remarks which follow may afford some solution to this difficulty.

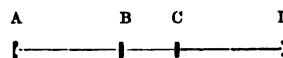
Compulsory Access.—We can gain access for our conduit across the property of bodies or individuals by three methods: private negotiation, compulsory access or entry without purchase under section 16, and compulsory purchase. The first method is the best. Suppose, however, that those entitled to prevent us raise objections, we must try other methods.

The second method, compulsory access—that is, the carrying by the authority of a sewer across property which it has not bought—is available only if we can by some means *supply or promise sewage from two sets of premises, and if also the local authority is agreeable, i.e. we must “produce a sewer.”* In the case of intervening land there are additional restrictions.

The sixteenth section of the Public Health Act reads thus: “Any local” (that is, urban or rural) “authority may carry” (*i.e. make*) “any sewer (*j*) through, across, or under any turnpike road, or any street or place laid out as or intended for a street . . . or under any cellar or vault which may be under the pavement or carriage-way of any street . . . and, after giving reasonable notice in writing to the owner or occupier (if on the report of the Surveyor it”—that is to say, the entry on the *lands* (*k*)—“appears necessary), into, through, or under any lands whatsoever within their district.” I omit the rest of the section, which deals with property outside their district.

How to Produce a Sewer (*see notes to Part I., p. 380, s. u.*).—Unless the sewer to be “carried” is a continuation of another “sewer,” or is likely to be used for the sewage of more than one set of premises (which I will call “double sewage”), it would, even though carried or made by the local authority, be only a “drain.” There may be three possible cases, which I will call Present, Past, and Future Double Sewage.

(i.) Where present double sewage (*see p. 380, u*) is flowing and ready to be taken across the intervening property. In such a case, plainly the authority’s continuation across such property will be a sewer, and of course will be the sewer of the Council which made it. The sewer which pours into this sewer may have vested in our authority or in a neighbouring authority, or in the building owner or anyone else as “own profit.” Thus, let AB be our land and also a sewer, BC be a private road, and CD private lands, and let BD be the sewer carried across these. Then AB may be



anybody’s sewer, but BD will be the sewer of the authority which carried it across.

(ii.) Past double sewage, where double sewage has flowed and has vested AB in our own or the adjacent local authority, and has ceased to flow, only one house now using the sewer AB. Then, even if double sewage ceases to flow, BD could be carried across under the section, for AB will still continue to be a sewer (*Beckenham U.D.C. case, 1896, J. P.*) (*see (t) p. 380 in Part I.*); and I should think that BD, as a prolongation of it, would also be a “sewer.” Of course CD, to be carried over the lands, must in the surveyor’s opinion be “necessary;” but then it might be so, *e.g.* where the one house which continued to use AB was a vast hospital or school, or the intervening land a thin strip.

(iii.) Future double sewage: where no sewage has yet flowed, but there is a good prospect of sewage doing so.

In (i.) and (ii.) we must provide the double sewage or find friends to help us. In (ii.) the sewer must not be one made for our “own profit,” but must vest in an authority (*see ante*). It would be wiser to wait until the sewer is carried before uniting the premises from which the double sewage flowed. In (iii.) we must promise the double sewage so as to allow the authority to “intend” a sewer (*see “Sewers, History and Purpose Test,” p. 377, col. 1.*)

First, we provide this double sewage. In what cases shall we be doing so? To actually suggest that we should plan all kinds of building operations with this object would be to propose imitating Lamb’s Chinaman, who burnt down the house to roast the pig, and might also lay one open to the imputation of suggesting finesse, a vice for which Judges have a very keen eye, being well versed in the art of brushing aside colourable cobwebs. It must, however, be borne in mind that the sewage difficulty often becomes extremely acute, and may frequently be worthy of considerable sacrifices, and that other advantages beside facilities for compulsory access may accrue from it (*u, p. 380, Part I.*). Further, the suggestions which follow are thrown out, not that they should be adopted solely on sanitary grounds, but rather that when you are of two minds as to what course to adopt you may know which would have the advantage of enabling the building owner to secure the best drainage, an object the attainment of which is not only a necessity to him but a duty to his children, his servants, his possible tenants or purchasers, and to the inhabitants at large. Our conspiracy, if conspiracy there be, will be an intrigue with the legislature to carry out its beneficent intentions, which, owing to its imperfect language, too often miscarry.

In what cases will there be this sewage from two sets of premises? (See "Sewer," "Source Test," p. 373, Part I.) Well, if neighbour Jones, who has a house which previously drained elsewhere, desires to drain into our drain, then, as soon as he does so, the double dirty waters could go hand in hand through the enemy's country in the name (and the sewer) of the local authority. We would, however, have to wait till Jones's sewage had arrived, and when it did come it would be rather *de trop*, as time might be required to carry the Council's new-made sewer over the objector's property.

Perhaps, however, our house might not be yet ready for residence, but there might be a basin there or in the builder's shanty in which (a most likely occurrence) the workmen might wash their hands; or other sanitary accommodation (as is usual) might be provided for the sons of toil and have a drain attached. If this were so the soapy water, &c., flowing from our house or from the sanitary apparatus (see (d) in Part I., p. 379), together with Jones's, would make a "sewer." In such a case we could, with the goodwill of the Council, and (if necessary) of the surveyor, get the authority to continue the sewer across the intervening premises, and see it joined with the main sewer before the house was ready for residence.

Perhaps, to suppose another case, Smith is building a house next to the mansion we are planning, or perhaps we wish to have a neighbour to summon in case of fire, and accordingly put up another house to keep us company.

Or it might suit our convenience to put up a gardener's lodge, instead of another villa (pp. 373-375). If you do this and wish to have double sewage (these cautions apply to whatever additional house is put up), take care that in order to get from his cottage to the mansion the gardener cannot get under, or over, or through the dividing hedge. He must be forced to cross by a road which the public use, or which, at any rate, does not belong to the building owner. If a road used by the public actually runs between house and cottage, then this (though inconvenient) will sever them still more certainly and make their common drain a sewer. Also give the gardener a coalhole and ashpit to himself, so that he need not make use of his master's. If possible, he should take the cottage from month to month or longer, and pay rent, as this will have a severing effect. He would, though a servant, be held to be a *bona-fide* tenant even if he paid no rent, as he could have acted as gardener though living elsewhere (see p. 375 (4) and (o) p. 380). The gardener's plot should be for his own use, and not be the kitchen garden for the mansion (p. 375 (3)).

Again, a humbler building may serve our purpose, for the word premises in section 21 is a very wide word (see (d) p. 379). Thus it is a frequent

practice for the sake of economy to let off for grazing a portion of the land where building operations are being carried on. In order to sever properly, there should be a real letting to tenants of the land and not, I think, of a mere eatage. Further, not only would it be more convenient for all parties to fence off the building from the grazing portion, and thus prevent the cows from walking up the scaffold planks, but this would contribute to a severance of the premises; for this purpose there should be no gap or gate between them. But severance without sewage is of no use. So there must be a drained cowbyre, manure heap, or pigsty in the portion let off; and two separate premises, be they cowbyres or pigsties, or be they the house and a cowbyre, or whatever they be, must unite in running sewage through a common channel or pipe.

I seem to hear our common-sense friends laugh, and ask if dignified councillors are to make a sewer for two cows because owned by different persons. But even the humblest can breed disease, and it is wise of Parliament to give Councils the powers over the sewage that drains the humble byre as well as over the washings of some dainty dish or the suds of some Parisian soap. Our friends may rest assured that if sewage accommodation for the cows would be an extravagance, the Council will not, and cannot be forced to afford it.

You will thus have supplied double sewage, and, if your sewer is an "own profit" one, must continue to do so; but if the conduit has become a sewer and also vested in a local authority, it can never (as we see from the cases of *Beckenham U.D.C.* and of *St. Leonard's Vestry*, both decided in 1896) be divested (see (t), p. 380). The authority will for ever have the power of continuing it by compulsory access, and they must clean and repair (see (o), p. 380). If, therefore, you wish to knock your villa and the next into one house, or, say, to put up a private gate into the gardener's premises, or to close to the public the road which divides up or constitutes the sole means of access between the two sets of premises, and on which the public are perhaps merely trespassers, or if you desire to give notice to the tenants or to take over the pigsties, or in any other way to unite the premises, you can do so freely, for, when vested in an authority, "once a sewer always a sewer" (t); and in this case, though only one house used the pipe, it would still be possible for the local authority to say to the intervening owner that the original prelude, the first half, is a vested sewer, and such, therefore, will be the second half, the sequel which is being carried across. It would, however, be better to wait until the sewer is continued through any intervening property before uniting the premises.

So much, then, for double sewage in the present and past. Now we consider the *promise of double sewage in the future*. In other words, we must

persuade the authority that some such events as I depicted before are likely to happen, so as to produce two sets of premises and a meeting of their dirty waters, or we must show that round our house lie hidden the germs of a small city, as would happen if a pit was being opened, but not, I ween, if coal was only being bored for (at least not in Kent). Perhaps the fact that a new station was being put near our house, or that not far off the land had been bought by the builder from Wales, or several of these events taken together, would give them power honestly to "intend" a sewer (see "History and Purpose Test," p. 376, col. 2). This is mere suggestion; all that the cases say is that an intended sewer, *i.e.* a conduit made by a local authority that it may receive double sewage, bears the title of "sewer" even before the double sewage anoints it (*Beckenham U.D.C.*). (See "Sewer," last reference and antiquity test, p. 377, col. 1.)

The disadvantage of this method of sewerising by promise is, that the Council might put its finger to its nose and make other gestures at once complimenting your cleverness and its own per-spacity.

On the other hand, the fact that two sets of sewage premises would be ready by the time the sewer was duly carried across and ready for use would constitute a weighty argument for contending that the conduit so carried was a "sewer." The great advantage of thus taking time by the forelock and preventing nuisance rather than causing it is obvious. By the time the piano was in and the lace curtains were up, there would be a complete system of sewage awaiting the united message to the sea. (See *l*) and *R. v. Tynemouth*, *post*, "Complaints of Insufficient Sewers," in Part III.)

In all these cases, whether you or your authority make the sewer, the utmost *bona fides* should be observed, for the law leans against holding a conduit to be a sewer. It is true that the ground of this leaning is consideration for the poor ratepayers; but then one inevitable effect of "sewerising" a conduit would be to burden them as well as to silence intermediate owners.

We will now suppose that circumstances have so favoured you that the sewer to be carried over intervening land can honestly be called a "sewer," and thus enable the authority to exercise their powers of compulsory access.

You have next, or rather first, either to persuade or to put pressure on the authority to act (with your powers of putting on this pressure I will deal in Part III.). In persuading them, you can explain that they need not buy the property; but I doubt if it would be safe to offer to indemnify them against compensation under section 308, as the objector might say that you were buying their consent. I have shown how double sewage produced or promised will enable them to act, but much

sewage may be required to persuade them to do so.

Surveyor (as to Lands).—If it is land that you wish the sewer to cross as opposed to the roads, &c., and to the vaults, &c., specified in section 16, then it will be further requisite to persuade the surveyor that it is "necessary"—*i.e.* most convenient for the carrying on by the local authority of its public duties as to sanitation—that the sewer should cross the land. That is the definition of the word "necessary," as given by the Courts, but we might safely define "necessary" as meaning "worth while." The surveyor has a discretion. I think that the public duties of the local authority as to sanitation may, if expense be not disproportionately great, make it "necessary" to take the sewer across land, even though but a handful of individuals require the accommodation.

We might have a more uphill task with the surveyor where our grounds for moving the Council were not the present existence of sewage, but rather its probability in future. The surveyor could hardly report necessity unless premises capable of holding sufficient individuals to outweigh the expense of carrying the sewer were constructed, or would probably be completed in the time it would take to carry the sewer.

There are, then, three superficial tests, which he should not impose upon himself in reporting as to "necessity." He should not say "No necessity where only a few individuals are involved," for the feet of sewer to be carried might be proportionately few. He should not say "Access is not necessary where there is only one set of premises," for that set might be sufficiently important—might be our new Infirmary. Not for him the quibbles as to "sewer or no sewer." It is not *his* business whether we have produced a sewer or not. He speaks as to necessity, not as to legal possibility. Of course this is a *sine qua non*, but he is not the judge. But then, as we shall see, even if he do act improperly, the drain-owner is in most cases helpless. Lastly, he should not think it necessary to wait until the premises are occupied (*l*), or perhaps even until they are complete, before he reports that compulsory access is "necessary," for the sewer would take time to carry, and he would have no right to enforce on you an interval of inconvenience. "Prevention is better than cure."

If he acted on any of these three rules he would be clogging his discretion and acting with prejudice, and therefore improperly.

Where, but for the carrying of the sewer over lands, the sewers would be insufficient under section 15 (see "Complaints of Insufficient Sewers," Part III.), it is clear that the surveyor should report necessity. If the surveyor acted improperly against the landowner, the latter could upset his decision, but not, it seems, after the sewage had flowed through the "carried sewer" (*Hutchings*

v. *Seaford*, *Loc. Gov. Journal*, 1898, 736, November 18). The drain-owner, however, could not, as we shall see, make him do his duty. All that the above means is that the surveyor, in doing as above prescribed, would be protected from the landowner. If the surveyor reports that compulsory access is not necessary, even though he exercises his discretion improperly, the sewer cannot be forced across the land until a new surveyor prophesies smooth things. Suppose his report were upset by the Courts, the latter could only erase his writing—they could not guide his hand; and in this case the absence of a report is as fatal as the existence of a hostile one, for a report is a *sine qua non*. Perhaps you would cancel the surveyor himself. But to dismiss the old surveyor, unless on other good grounds, would lead to severe criticism, and, where the Local Government Board paid part of his salary, could not be done without its sanction; while the report of his successor might be open to suspicion as having been made under duress. In the case of a rural Council it might be easier to obtain a new report, as the surveyor of such a Council, being only an acting surveyor, might be one man one day, and another the next. Even if you put pressure on the Council by complaint under section 299 to the Local Government Board, that *deus ex machina* could not force a surveyor to report favourably nor dismiss him. Mr. Walter Long may muzzle the Council, but he cannot muzzle the surveyor.

My remarks as to the surveyor's report are largely founded on *Lewis v. Weston-super-Mare*, where the judge said that the word "necessary" does not mean that it is physically impossible to do otherwise, and defined "necessary" as meaning "necessary for the efficient discharge of the authority's duty in the way which is most convenient for the benefit of the public." "If," said the judge, "the sewage can be more efficiently removed by laying the sewers under private land, it seems reasonable that the authority should have power to adopt such a course." As to the surveyor's *discretion*, the judge said: "If the Court finds that the surveyor has exercised his judgment and come to a conclusion in good faith, the Court ought not to interfere." This, I may say, is not the whole law as to discretion; for to protect the report against the landowner something more than *bona fides* is necessary—viz. relevance, absence of whim and prejudice, and freedom from duress. The pipes which in this case it was sought to carry across the land were water-mains, and the person who wished to upset the report was the owner of the intervening land.

As to the meaning of the judge's expression, "the benefit of the public," we must all admit that the sanitation of one house is a matter of public importance (t) (l ii.) The "Public" Health Act admits the surveyor into the remotest recesses of

the most isolated house, for the most secluded microbe may lead to an epidemic. The surveyor, therefore, has, as already stated, no right to report against compulsory access simply because few persons are involved, though, of course, the greater the expenditure threatened the greater must be the number of individuals to be benefited.

As to the word "surveyor," the Court in the above case said that in urban districts a "surveyor" means a surveyor appointed with the due formalities; while if you refer to the Public Health Act, section 4, you will see that in rural districts "surveyor" may mean an acting surveyor.

We will now suppose that all has so far gone merrily, and that the "double sewage" is found or promised, the Council willing or forced to act, and the surveyor, in the case of lands, won over to your side. The property over which compulsory access is given is threefold—viz. "roads, &c.," the "cellars, &c.," specified, and "land."

Extent of works permitted.—It was held in *Larnacraft's case* (42 L. T. 365) that authorities exercising this power must not commit a nuisance; but, saving this limitation, there are no bounds set to the *détours* they can make or the height or depth of their banks or excavations, for it is presumed that they will act wisely. As the owner can require full compensation for all damage, he cannot complain (*Roderick v. Aston*, 5 Ch. D. 380, per M.R., *affd.* on appeal by *Amphlett, B.*, 385). We are told of an eccentric Roman whose chief delight was to walk along the street and belabour the wayfarers, his slave following after him with a purse of gold. He thought, doubtless, that he was a law-abiding citizen. Whether he was right or wrong in this, a Council acting under section 16, subject to its members being given their *congé* on the next election by the ratepayers, who supply the bag of gold, may defy the auditor and commit what vagaries it chooses, except in so far as it is restricted by the clause as to "cellars, &c.," from taking the sewer *through* certain vaults (m).

Roads, &c.—First, what is included by section 16 in this category? Under this head are comprised turnpike roads and streets. The fact that a road or street is private will not take it out of this class if the public, whether rightfully or wrongfully, use it for their wheel traffic (*Taylor v. Oldham*; *Hill v. Wallasey*; *Maddock v. Wallasey*). A way along a foreshore belonging to the plaintiff in the last-named case was not included in this category, because it was cut off and inaccessible during high tide. We must also include the footpaths by the side of all these public or private roads; and I think that the roadside waste on either side of them could, so far as used by the public for walking, be treated as part of the road (on the analogy of note h). The Act also includes an "intended street."

I think that strips marked "streets" in the estate plan sent to a Council would, though not as yet pegged out, be "intended streets." (The need for this clause as to "roads, &c.," appears from note f.)

The authority can take its sewers over as well as under these "roads, &c.," even so as to make the road switchback (*Roderick v. Aston*, 5 Ch. D. 330, bottom, and 331, line 8). No notice or surveyor's report is necessary in this case.

Cellars, &c.—Secondly, as to *cellars* and vaults under the pavement or carriage-way of any street. As to "street" (d), observe that in this section a private as well as a public way is included, if used by the passers-by, whether rightfully or wrongfully.

The effect of this clause is prohibitive (m), and curbs the council's vagaries where such cellars, &c., are concerned. No notice or surveyor's report is necessary in this case either.

Lands.—The third class is *lands*. The authority may take the sewer through, across, under, and also over these, to any depth or height.

In the case of lands there are two formalities to be observed—viz. surveyor's report, already considered, and notice.

The surveyor reports as to the necessity for entering, but it is for the authority to decide by what route, if any, and at what level the sewer shall go. Here the authority has a "discretion"—and, as we saw just now, a very wide one.

Notice to Owner.—The other formality as to lands is *reasonable notice*. Otherwise the owner's garden party and the Council's sewage party might clash. It is hard to say what "reasonable notice" means, but I should presume that it should be sufficiently long not only to save the owner from inconvenience by unexpected invasions of the British workman, but to give him time to write and inquire on what grounds the Council act, and, if he desires, to examine roughly into matters for himself, so that if the surveyor's report is preposterous he may take means by obstruction or interim injunction to resist the Council; for I presume that the Act requires notice with both these objects. For the same reason the notice should, I think, state or indicate under what powers the Council is acting. I am strengthened in this opinion by the fact that it is always customary for persons exercising powers of any kind to recite the powers under which they act; and so I should think that the statute meant by a "notice" a notice with such usual recital superadded (but *contra*, perhaps, see n). The notice must explicitly state the route of the sewer, but, according to the *Cleckheaton* case, need not be accompanied by a plan.

If the local authority, whether entering "roads, &c.," "cellars, &c.," or "lands," needs lateral support, it must purchase it, but it has a right to subjacent support without purchasing the land. Where mines are beneath, the Public

Health Support of Sewers Act may be referred to. All this is primarily the Council's business, but it is really yours. Compensation is payable for the mere fact of entry, and for all damage which would, but for section 16, be actionable (n).

Suppose the sewer found, the authority willing, the surveyor, if requisite, favourable, and any required notice duly given, but that *the owner obstructs* and refuses to allow access to his road, vault, or land. What must be done? The authority would first try to make an entry, but not a forcible one, for that would be held to endanger the peace, even if the owner was only an invalid lady with a few fragile domestics. I once heard of an ancient dowager sitting on a hurdle she had put across the "horrid new railway line" which cut up her lands. The engine-driver slowed down to a mile an hour and the objector retired. May your Council be as successful. Special power to enter forcibly must be given by statute in order that such an entry may be legal, and such power is not given in section 16. Further, if the authority were mistaken as to its rights of access, a forcible entry would greatly swell the damages. Now, if a peaceable entry were made, the owner would be liable for assault if he even touched one of the workmen. Failing peaceable entry, an order to admit the Council's workmen and to pay a penalty for obstructing the Council's officials may be obtained from a magistrate under section 306, but not under section 305, which has regard to entry with note-book and pencil, rather than with spade and pickaxe.

Excepted Property.—All the property of those much-abused institutions, the Admiralty and the War Office, is protected from compulsory access, and likewise the works of the Commissioners of Sewers (see 24 & 25 Vic. c. 133, s. 58), and other land improvers, whether acting under public or private Acts. These exceptions are contained in section 327. With regard to the property with which this section forbids a Council to "interfere," the very least interference, unless so trifling as to show that the plaintiff is suing vexatiously, would be ground for an injunction (*Grand Junction Canal Company v. Shugar*, L.R. 6 Ch., 488). Section 327, however, should be carefully read, as sub-section 1, which protects land-drainers, only protects their works and not their land as such.

As to the Canal and Harbour bodies (x), provided that navigation or the traffic of a towing-path is not impeded, or water supply diminished or deteriorated, the Council could, subject to section 328, carry a sewer through, under or over their property (see *Re Dudley*, 8 Q.B.D., 86, 96), with the exception of their own bridges over their canals, &c., and their wharves, quays, docks, harbours, and basins. As to these all interference is prohibited.

As regards these statutory users of rivers, canals, docks, harbours, reservoirs, basins, or towing-paths, there is a further restriction contained in

section 828. Section 827 did not forbid authorities to interfere with the land owned by the users of the above properties, and which they might in *future* require in order to improve the same, nor with their *works*, nor with their land (not being a wharf, or one of their bridges, or a towing-path, which are under section 827) needed by them for the enjoyment of such properties; but section 828 enacts that an arbitrator can forbid this if there is likely to be damage which could not be compensated for by money (x).

Then, of course, there is the property of the Crown, which, not being mentioned, is not bound by this Act, and cannot be invaded by the Council's sewer.

Compulsory Purchase.—The third method is *compulsory purchase* by the local authority. This cumbersome method may be needed in some cases, as, *e.g.*, where the conduit which the council wishes to lay cannot be called a "sewer," where lateral support is wanted for the conduit, or if (in the case of lands) the surveyor is hostile. Perhaps it would also be available against the excepted property (p) (other than the Crown) mentioned in the last paragraph. The Public Health Act, section 176, incorporates the Lands Clauses Acts, with the exception of the provisions as to superfluous lands, for which is substituted section 175, and excepting the clause as to access to a special Act, which of course would be inapplicable. By section 175 the lands are required to be "requisite." Then by section 176 advertisements must be inserted in local newspapers, about October, November, or December, and a month after advertisement special notices must be sent to those mysterious beings, "persons interested."

Next the Local Government Board must be petitioned, and they will then send down an agent with carpet-bag and a note-book to enjoy rate-paid hospitality and make inquiries on the spot. The Local Government Board may then make or refuse to make a Provisional Order. If they make the Order, it must be served on all persons interested. It must then be submitted to Parliament amid the trumpetings of more advertisements, and perhaps, when the grievances of Ireland have been thoroughly discussed, it may be confirmed.

Then begins the fun under the Lands Clauses Act. notices to treat followed by long advertisements. There are about twice as many formalities superadded by instructions from the Local Government Board and orders of the House. The local authority will have *solvere per nasum* (q), and the family of the building-owner will probably have succumbed to typhus or old age, and "have been dead for some years," like the pig in the *Hunting of the Snark*. The judge in *Glossop's* case, 12 Ch. D., at p. 113, only tells half the tale of this sanitary obstacle race.

These powers of compulsory purchase cannot be exercised against the Crown, but perhaps they

may be exercised against the property of the Admiralty, the War Office, and the works of the Land Improvement bodies, and the wharves, &c., of Inland Navigation and Harbour Boards (p) (u) (and see *ante*, "Compulsory Access, Excepted Property").

Compulsory Access or Purchase in Neighbouring District.—The home sewer into which we desire to empty may be in the foreign district, and so it may be desirable that the home Council should there exercise its powers of compulsory access or purchase. We must in such case bear in mind that, if one authority exercises these powers in the district of another, then under sections 92–94 three months' notice must be given by advertisement in the local papers (v). (The notice need not be in for a month. I presume that advertisement in one issue would be enough, as in libel cases.) The details of the works must be specified as required by section 92, and a place indicated where the plan can be viewed. Then notices must be sent to the persons interested in the land, and to the highway authorities in such adjoining districts, and to a very wide body of persons mentioned in the section. In case of objection, the Local Government Board will inquire and decide. All this means cost, trouble, and delay. Where access over foreign "lands" is desired the surveyor of the compelling and not of the foreign Council reports.

So much, then, as to freedom from trespass, which was the fifth condition to your connecting with a sewer under section 21.

VI. Sanction when.—Now we come to the sixth condition, which only applies where the sewer of the local authority empties into a water-course which was not before the 15th August 1876 "mainly used as a sewer," and which also does not empty directly into sea or tidal river, and so the sewer contravenes the Rivers Pollution Prevention Act of that date. Under the third section of that Act you will be liable for emptying your sewage into the offending sewer without the *consent* of the local authority; otherwise, such sanction is unnecessary. I have at the beginning of this lecture, "Sewage Water-courses" (Part I. p. 369), discussed the meaning of the words "mainly used as a sewer" in the light (or darkness) of the *Portobello* case, and in dealing with "the history and purpose test" of "sewers" (Part I., p. 376, col. 2, and notes (e) and (g) on pp. 379 and 380). But even if you connected without the authority's consent, and they were violating the Rivers Pollution Prevention Act, provided you had obeyed section 21, the Council could not disconnect or even sue you, but County Councils and Conservancy Boards might bring you to book (*A.-G. v. Dorking*, 20 Ch. D., 604 [1882].)

VII. The 100-feet Rule.—A seventh condition may also affect you, for if you are engaged in

building a house in an urban district, or if your drain in rural or urban district when built is "insufficient," and in either case if it is beyond 100 feet from a sewer which the authority is entitled to use, you may be directed by the Urban Council to drain into a cesspool, or other covered place. It might be well, therefore, to avoid such a coincidence. (Sections 25 and 28 Public Health Act.) These will be considered in the next lecture on "Duties."

Disconnection.—As to the Council's right to disconnect under section 21, I have already spoken (see "Orders and Regulations," *ante*). It could also do so, if your drain was insufficient, under section 28. Again, it could in a friendly way cut you off under sections 18 and 24 of the Act, on condition of substituting equally good accommodation at the public expense (*Fitzg. Public Health Act*, p. 27). The authority, however, has no other warrant (*r*) for disconnecting, for that would endanger the public health (*A.-G. v. Dorking*). This does not mean that the wrong-doing drain-owner would escape liability. See (c) in Part I., p. 379.

Notes to Part II.

(a) *Qualifying for sewage rights by owning premises.*—Two questions arise. Could I, under section 21, by merely owning some other premises in the district gain the right to empty my drains, in whatever district the building which fed them was situated, into the sewers of the former district? Thus, I have a big hospital in X district and occupy, say, on a weekly tenancy, a hovel in Y district. Can I insist on emptying the hospital sewage into the sewers of Y? Reading the section literally, I could do so. My claim, however, to gain such a right would be absurd, being plainly beyond the intention of the section, and we must therefore hold that, though the legislature seems carefully not to have said so (contrast section 22), the "drains" must be the drains of the "premises" mentioned in the section. Again, could I by possessing a drain in a district claim the right under section 21 (instead of section 22) to empty into the sewers of that district the drain which continued it, though the fount of the sewage was elsewhere? Thus I have taken my hospital drain across the borders into Y district, having acquired perhaps only an easement of pipe-line in Y, and wish, as an owner of "premises," i.e. of land or easement in Y, i.e. a right of pipe-line to empty into the sewers of Y, under section 21 instead of under section 22. The drain, as we have seen, must be the drain of "premises." My quibble would be framed thus. As Euclid would say, divide the drain into any two portions. Then I may call the top half "premises," because it is at least an easement under the definition of "premises" in section 4. The bottom half I may call a drain, for it is one. The bottom half drains the top. Therefore it is a drain from premises. This again would be absurd, for the Act could not have meant to speak of a drain from a drain, and such an interpretation would render section 22 mainly, though I admit not wholly, unnecessary. This is a different question from that dealt with in note (u): the right there dealt with is under section 22.

(b) *Unconscionable delay.*—The by-laws in these cases were held to be void on this account, but of course the

section (21), being part of a statute, must be taken with all its faults.

(c)

"Where a dim gleam the paly lantern throws
O'er the mid pavement, heapy rubbish grows,
Or archèd vaults their gaping jaws extend,
Or the dark caves to common shores descend;
Oft by the winds extinct the signal lies,
Or smother'd in the glimmering socket dies
Ere night has half roll'd round her ebon throne;
In the wide gulf the shatter'd coach o'erthrown
Sinks with the snorting steeds; the reins are broke,
And from the crackling axle flies the spoke."

From GAY.

Every Jewish child is taught in the 53rd of "the 613 precepts" the enormity of leaving open an exposed pit.

(d) *Street.*—This term means a carriage-way with houses more or less continuous along one or both sides (but see *Tod-Heatly's case*, 53 J. P., 77). Whether a highway is a street is a question of fact (see first lecture, Feb. 1900).

(e) *Frontager's freehold in road.*—It is always presumed, in the case of a road or street adjoining a frontager's property, that he owns as far as an imaginary line running down the centre of that length of the roadway which touches his property (see the cases just quoted in text). But then suppose that it is proved that someone under whom we do not claim made both sides of the road and gave up his land for this purpose, the presumption would plainly be false and unjust, and the Courts would hold that we had no freehold.

(f) *Rights of freeholder of road or street.*—(As to roadside strips, see (h).) Freeholders own all the street except the part which is vested in the local authority, i.e. except the immediate surface—the macadam or the mud—and except any sewers, or water, or gas, &c., mains that actually are laid. Public Health Act, section 149 (Streets, Urban); Local Government Act, 1894 (Streets, Rural); Public Health Act, section 13 (Sewer), section 54 (Water main), Gas Acts, &c. (Appliances for lighting, &c.). See *Baird v. Tunbridge Wells* [1896], A.C., p. 457; *A. G. v. Barker*, 83 L. T. (N.S.), 236; *Sydney v. Young* [1898], A.C. 457; *Salt Union v. Harvey*, 61 J. P., 375; *White's Charities*, 1898 1 Ch., 659 (j).

As to the rights of the freeholder of the street against the public, see *R. v. Longton* in next note, and *Hickman v. Maisey*, 1900, 1 Q.B. 752, as to the public not loitering, a case which illustrates the former.

All these remarks apply to roads, except that the surface of roads is strictly not vested in, but merely under the control of the local authority.

(g) *Implied right to excavate* (and see note (o) as to drains) *as against freeholder.*—Section 21 must have intended to imply this in the case of streets, for otherwise the exceptions as to use of sewers by drain-owners would swallow up the rule. This would be absurd (*Ferrand v. Hallas*). On the other hand, the right was intended by the legislature to be curtailed by some exceptions—for instance, private land (*Balhard v. City Commissioners*, 54 J. P., 135). But what about roads, separate footpaths, and bridle-paths? Are these treated like streets or like private property as regards implied access? I am not so sure that there is this implied right in the home district to cut up these last classes of way. Sewers along them are comparatively uncommon, and so the legislature may, perhaps, plausibly be considered not to have contemplated such cases, and therefore not to have intended to give implied right of access over them. The Public Health Act in several places gives colour to such a differentiation. As to roads in the foreign district, see "Foreign Sewers" in Part III. This remark, however, only applies to the freeholder. The sanitary authority must afford the drain-owner reasonable facilities

for laying his drain over any kind of way which is under its control. I may quote generally for the law laid down in this note, Maxwell, "Interp. Statutes," latest ed., 507 (b), 283, 399, 419, 504; *Ferrand v. Hallas*; *City of Montreal v. Standard &c.* [1897], A.C., 527, 531 (top); *R. v. Tynemouth*, 1896 2 Q.B., 229 (bottom); also *Thompson v. Sunderland* [1877], L.R., 2 Ex. D., p. 436; and *Rolls v. V. of St. George*, 14 Ch. D., 788. See also the *Clarence Ry. Co. v. The G. N. E. Ry. Co.*, 13 M. & W., 716 (per Alderson, B.), and 719, 721 (end of judgments of Pollock, B., and Parkes, J.); *Pomfret v. Ricroft*, 1 Williams Saunders, 564. It is true, indeed, that in *R. v. Longton*, 29 L. J., M. C., 118, p. 124, col. 1, the Judge said "that a frontager has no right to cut up a road for sewerage pipes," but this is *obiter*, and cannot have been intended to apply to drains communicating with a sewer under section 21. See first four lines of (o).

(h) *Roadside wastes*.—These will usually belong to the frontager, but if communicating between two parts of a common way not do so (see "Encyc. Laws of Eng.," sub "Highways," p. 197 *et seq.*; *Neald v. Henderson* [1899], 81 L. T., 405). As to when they are parts of the road (see "Encyc." *ibid.*); also *R. v. U. K. T. Co.*, 3 F. & F., 73; *Locke King v. Woking*, 77 L. T., 790, 62 J. P., 167. District Councils sometimes own these wayside strips ("Encyc." *ibid.*), in which case you could force your own and usually the neighbouring authority to allow you to excavate them.

(i) *Directing route*.—"Goddard on Easements," ed. 5, 410. Gale's opinion also can be reconciled with the statement in the text; and see *Birkenhead v. L. & N. W. Ry. Co.*, 15 Q.B.D., 572. The authority can only thus direct when their property intervenes, but I may remind you, that even when it does not, as regards the actual junction of drain and sewer, they may give their orders and make their regulations under section 21.

(j) Including a manhole, according to *Swanston v. Twickenham*, 48 L. J., Ch., 623. But the authority cannot as against the freeholder thus carry a drain, cesspool, lavatory, &c., &c., or saltwater or other trade pipes (and see f).

(k) Section 16 is to be read as if "after giving reasonable notice" was at the end. *New River v. Ware*, 18 L. J., M.C., 20.

(l) *Surveyor's report*.—(i.) The Council must afford sewage accommodation as soon as it is clear that the premises will need draining, but they need not do so while they merely exist on paper. I presume, therefore, that the surveyor should not report necessity until the houses or

house is more or less complete, *R. v. Tynemouth* [1896], 2 Q.B., 221, 224 (bottom), 225 and 453.

(ii.) *Passmore v. Oswaldtwistle* [1898], A.C., p. 397, is distinguishable, as there the refuse was waste from a paper factory and would not have led to typhus if left unprovided for.

(m) *Cellars, &c.*—This second clause has the effect of forbidding a council to take the sewer through certain cellars. Permission to do so would be otherwise implied under the first clause as to roads, &c., and is implied as to cellars not mentioned in this clause. See Lord Cairns' judgment in *Thompson v. Sunderland* [1877], L.R., 2 Ex. D., 429.

(n) *Compensation and notice*.—Compensation will have to be paid, but it need not be tendered first, "Fitzgerald, Public Health Act," p. 24. Notice given after works commenced, and general in its terms was considered sufficient in *Bird v. Brentford*. (See the same author, p. 23.)

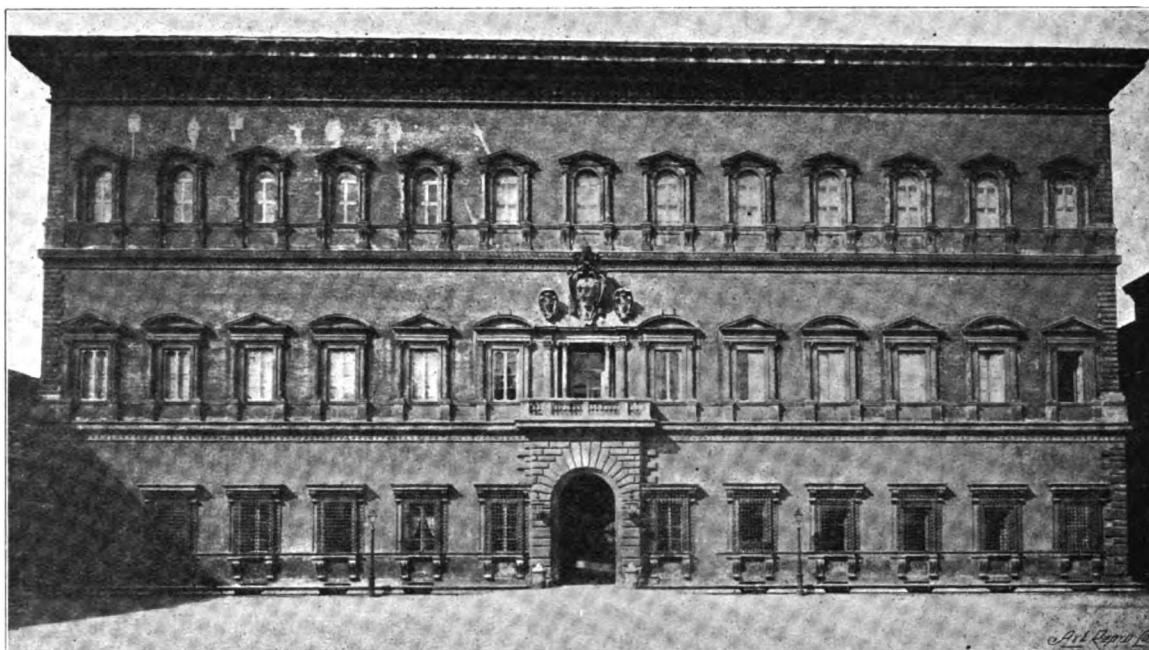
(o) After the sewer is laid the law implies reasonably necessary access to repair it (*Birkenhead v. L. & N. W. Ry. Co.*) (This rule would apply also to a householder's drain laid under right of way implied in section 21; see "No trespass.") The owner of the intervening land cannot upset a proper exercise of the surveyor's discretion, especially after sewage has begun to run through the local sewer. (*Hutchins v. Seaford* [1898], November 21; *Local Gov. Journal*, 736.)

(p) *Compulsory purchase, Excepted property*.—The statement in the text must perhaps be accepted on the authority of Lumley's work, but the matter seems open to doubt. I should have thought that, as in a case of compulsory purchase of water (see Lumley, 416 a), Parliament would refuse to confirm a provisional order attempting to override these rights, and would decline to affect them except by bill. (Compare remarks by the Judge *In re Dudley*, 8 Q.B.D., 86, 96 (on the portion of section 334, which ends "wrought iron"), and see Bazalgette, 55 and 221). As we have seen, not all the property of all these bodies is protected, but any provisional order directing sale of their rights should, I think, expressly protect them in the terms of sections 327 and 328.

(q) *Cost of provisional orders*.—These are only taxed on the Chancery and not on the Parliamentary scale. (*In re Morley*, L.R., 20 Eq. 17.)

(r) *Disconnecting*.—Neither section 26 of the Public Health Act, i.e. the Penalty Clause, which forbids building a house in an urban district without a drain, nor section 3 of the Rivers Pollution Prevention Act (1876) gives such power.

(To be continued.)



Palazzo Farnese, Rome, by Antonio da San Gallo the Younger. The Cornice by Michelangelo

ST. PETER'S, ROME.

THE FOURTH ROYAL ACADEMY LECTURE, SESSION 1901.*

By Professor AITCHISON, R.A., *Past President, Royal Gold Medallist.*

BRAMANTE DA URBINO, as Vasari calls him, was taken ill in November 1513, and died on the 11th March 1514; he was buried in St. Peter's. He is said to have been a musical composer as well as an architect. During his illness Giuliano da San Gallo (1445-1516) and Fra Giocondo of Verona (1495-1515) were given him as assistants. After Bramante's death Raffael, who according to J. A. Symonds was Bramante's nephew, was appointed chief architect (1st August 1514) on the recommendation of Bramante, with Giuliano da San Gallo as his second. Giuliano da San Gallo retired on the 1st July 1515, and Fra Giocondo died the same day.

Giuliano Giamberti, nicknamed by Lorenzo dei Medici "Da San Gallo," was the son of an old architect, Francesco di Paolo Giamberti, though in legal documents he is called Francesco di Bartolo di Stefano, who was employed by Cosimo dei Medici. Giuliano and his brother Antonio were apprenticed to Francione, a joiner and wood-carver who was skilled in perspective. Giuliano was accounted the best inlayer of his day, and was sent by Lorenzo dei Medici to repair his castle at Castellana, and so increased in reputation as an architect that he made a model for Lorenzo dei Medici of a palace to be built in Naples for the Duke of Calabria. This model he was unable to finish, but it was finished for him by his brother Antonio. The elder Lorenzo sent Giuliano with the model to the Duke, who was so well pleased with it that he had it begun at once. When Giuliano got permission to return to Florence the Duke made him many valuable presents, among them a silver goblet full of gold ducats. Giuliano would not accept these presents, "saying that he had a master who had no need of gold and

* The Third Lecture appeared in JOURNAL No. 11, 6th April 1901.

silver, but hoped the Duke would present him with some of his antiquities"; and the Duke gave him a head of Hadrian, a colossal female figure, and a Sleeping Cupid, which Giuliano sent to Lorenzo. Such acts of self-denial and high-mindedness were not likely to be overlooked, for it must be recollected that the great men of that day were judges of the fine arts, and highly valued antiquities. Giuliano had been previously employed by the Castellan of

Ostia, Bishop of Rovere, afterwards Pope Julius II., to repair his fortresses about 1490, and this prevented him from completing the model himself for the Duke of Calabria. When the new St. Peter's was entrusted to Bramante, Giuliano felt much aggrieved, and prepared a plan of his own in the form of a Latin cross [fig. 1], a very inferior plan to Bramante's. Giuliano appears to have had a great reputation as a military engineer, and when Pisa was besieged he designed the bridge of boats which cut off its supplies by sea and caused its ultimate surrender. One of Giuliano's constructional achievements was to build a coved ceiling for a great hall of Lorenzo's, a work that was thought impossible to be done. Bramante got much credit for an innovation of casting great modelled masses for vaults and ceilings, so that they could be put up whole. The front of his house, that was afterwards Raffael's, is said to have been executed in this way. I think C. Cesariano mentions this in his *Annotations of Vitruvius*, p. 99, when he speaks of sculptured panels cast in gypsum from moulds.

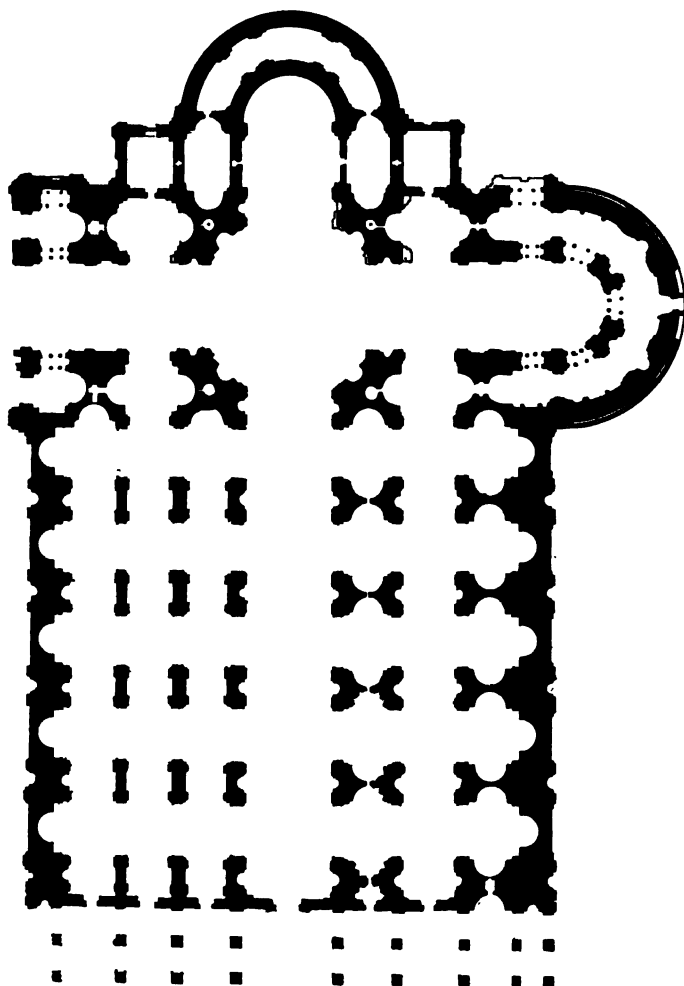


FIG. 1.—PLAN OF GIULIANO DA SAN GALLO'S DESIGN FOR ST. PETER'S.

That illustrious man Fra Giocondo was architect to the Emperor of Germany, to the King of France, and to the Republic of Venice. He had the Renaissance passion for the fine arts, and was said to have been several times whipped by order of the Prior of his monastery for being absent while he was sketching and measuring antiquities; but as this had no effect on him, the Prior acknowledged that it was a gift from Heaven, and let him be. He is said to have been a philosopher, a theologian, and an excellent Grecian, and, if Vasari has made no mistake, was one of the great inlayers of wood with buildings in perspective. The French Grecian Buddæus was one of his intimates at Rome, and he is said to have taught Greek to that great Italian, Julius Cæsar Scaliger. The first thing that Vasari mentions about Giocondo is the securing of the piers of the "stone bridge" at Verona for the Emperor

Maximilian. He built two bridges over the Seine for Louis XII. of France; one of them was the bridge of Notre-Dame admired by Scamozzi. Vasari tells us that parts of St. Peter's were giving evidence of weakness and decay from having been hastily erected, and that by the advice of Fra Giocondo, Raffael, and Giuliano da San Gallo the foundations were in a great measure renewed. They were underpinned in the following manner: They caused cavities of large size to be dug beneath in the manner of wells, but square, and these they filled with masonry, and between each of these piers they turned very strong arches, which supplied a new foundation. When at Venice Fra Giocondo observed that the mud from the Brenta was filling up the lagoon, and if this were to take place Venice would become uninhabitable; and he was empowered by the Signoria to make a cut to turn half the water of the Brenta out by Chioggia, so as to prevent its mud from filling up the lagoon. After this time the bridge of the Rialto was burnt, and Fra Giocondo was to have had the rebuilding; he is said to have made a noble design for it and for laying out the surrounding parts, but his design not being carried out he left Venice in disgust. He is believed to have built the Palazzo dei Signori at Verona [fig. 5], whose windows the late Dr. Middleton said were copies of a Roman doorway of the time of Gallienus (260-268 A.D.), found in the walls of Verona. Fra Giocondo is supposed to be represented on a plinth of the first pilaster to the right of the first floor, with Pliny the Younger's Epistles, which he discovered in France; but he is best known to architects by his Latin illustrated editions of Vitruvius, the first published in large octavo in Venice in 1511, the second in small octavo (1513) at Florence, by Giunta, with Frontinus de Aqueductibus—this was the pocket Vitruvius of Rondelet*—and a third edition with Frontinus, in small octavo, by the

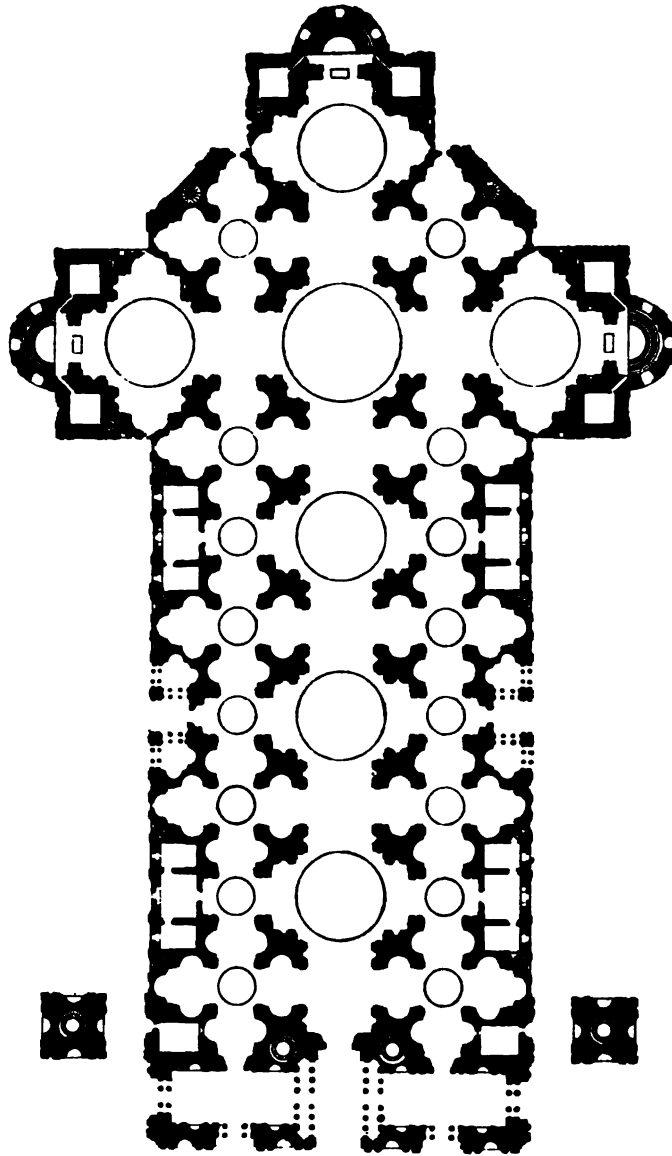


FIG. 2.—PLAN OF FRA GIOCONDO'S DESIGN FOR ST. PETER'S.

* Presented to me by M. Ch. Lucas and shown in Sir Lawrence Alma-Tadema's portrait in my hand.—G. A.

heirs of Giunta, Florence 1822. Baron H. de Geymüller, whom we have to thank for discovering a hundred of Fra Giocondo's drawings in various libraries, speaks of the beauty of his sketches and of his enthusiasm in measuring and sketching buildings when he was close upon eighty years old; he gives (plate 37) Fra Giocondo's plan [fig. 2]. The late Edward Falkener, in his *Museum of Classical Antiquities*, London 1860, gives us Fra Giocondo's lament over the destruction of antiquities at Rome.

Raffaello Sanzio da Urbino (6th April 1483—6th April 1520) had, if he lived to be as old as Bramante, thirty-three years before him, and Bramante must have thought he would have the dome of St. Peter's to build, so he must have seen in Raffael a rare insight into construction to have recommended him to Leo X. "as not less excellent in the way of building than he was in the art of painting," for we should have been inclined to pay him the compliment that Iago paid to Cassio—

"That never set a squadron in the field,
Nor the division of a battle knows
More than a spinster."

Bramante probably loved Raffael, and if Raffael were his nephew we might say naturally, for they were both urbane men who loved magnificence, as well as being men of genius who came from the same part of Italy. Bramante had brought Raffael to

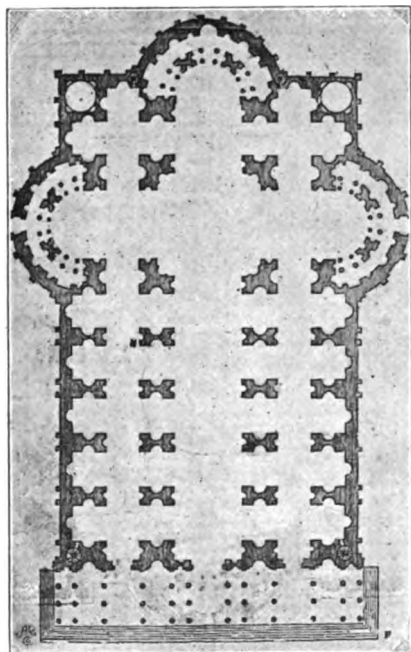


FIG. 3.—PLAN OF RAFFAEL'S DESIGN FOR ST. PETER'S.

Rome and got him employed on the painting of the stanze and loggias; he had given him lessons in architecture, and knew that he was full of invention, that all he did was graceful, and that there were two of the most experienced architects in Italy given him to consult with, Giuliano da San Gallo and Fra Giocondo, to keep him right in the constructive parts. Raffael was appointed architect-in-chief on the 1st August 1514, and for the six or seven years he lived after this appointment he was paid 300 gold crowns a year. The question naturally occurs to us, what did he do for this salary? We know he made a sketch of the inside of the Pantheon, and produced a plan for the building of St. Peter's in the form of a Latin cross [fig. 3], which Serlio admired. We know that he was an excellent perspective draughtsman, as shown in his pictures, although Bramante is said to have designed for him the architecture of the school at Athens; and when he had learnt some Roman details we can quite believe that he could make designs for churches and palaces, for no one will deny that he had great invention, and an incomparable feeling for grace; but this is very far from giving him the knowledge wanted even for turning a barrel vault over

the nave of St. Peter's, much less for building its enormous dome. We must, however, recollect that Bramante must have left a model or drawing of the dome for Serlio to have got it from Peruzzi.

The date of Martin Heemskirk's sketches of the state of the works at St. Peter's is placed by Baron de Geymüller between 1520, when Raffael died, and 1536, when Baldassare Peruzzi died. In those sketches there is no sign of any vaulting beyond what Bramante left, but there is the base and pedestal of one of the fluted pilasters. We know that Raffael

applied for an assistant, which seems to show that he had more work than he could personally do, and was given Antonio da San Gallo the younger as second architect on the 22nd November 1516. Before that Antonio had only been a carpenter on the works or Bramante's draughtsman. The church of St. Elogio or San Eloi dei Orefici at Rome, by the river, is said to be by Raffael on the strength of a drawing upon which Salustio Peruzzi has written, "The work of Raffael da Urbino." Vasari says Raffael made a design for the Pandolfini Palace at Florence [fig. 6] for the Bishop of Troy, said to have been carried out by Aristotile da San Gallo. Baron de Geymüller contends that the Farnesina was by Raffael and not by B. Peruzzi. Vasari says Peruzzi gave the model of Agostino Ghigi's palace in Rome, but its architecture neither resembles Raffael's nor Peruzzi's, though the stables that the Baron has restored remind one of Raffael. Several other palaces are attributed to Raffael, and the Chigi Chapel in Santa Maria del Popolo at Rome. He gave the sketches for the Villa Madama at Rome; the part executed is said to have been done by Giulio Romano; there is a coloured model of it at the Victoria and Albert Museum. Raffael got a chill, and after fifteen days' illness died on the 6th April 1520; his epitaph in Latin was written by Cardinal Bembo, and he was buried in the Pantheon.

It is said of Baldassare Peruzzi (7th March 1481 – 4th January 1536) that his birthplace was as much disputed as that of Homer, for Florence, Volterra, and Siena contend for the honour of his birth. Amongst his contemporaries he is always called B. Peruzzi of Siena. He showed a taste for the arts, and was always found in his youth among goldsmiths and designers, and shortly after his father's death he gave his whole attention to painting. He aided his mother and sister by copying pictures and painting small ones of his own. He is said to have painted one in a chapel at Volterra, where he made the acquaintance of one Peter, who worked for Pope Alexander VI., and on his going to Rome he got employment at the beautiful Appartamento Borgia, and he appears to have painted some of the corridors at the Vatican. There is a small fully-coloured model of one of the sumptuous rooms of the Appartamento Borgia in the Victoria and Albert Museum. The exact date at which he came on as Bramante's draughtsman is not known to me, but Geymüller gives some plates of his drawings for Bramante. I think

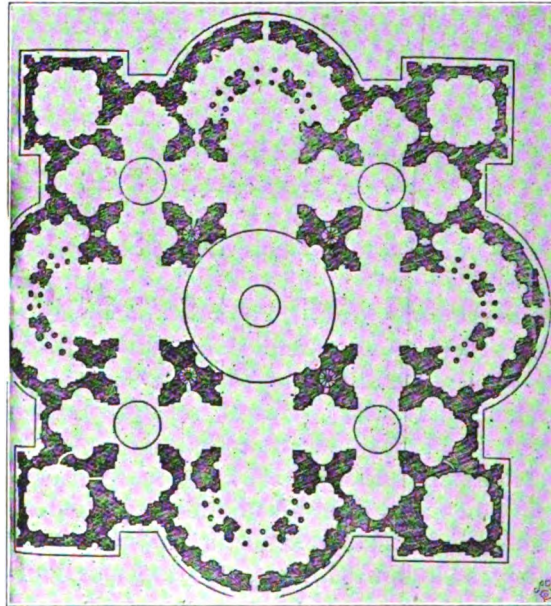


FIG. 4.—PLAN OF B. PERUZZI'S DESIGN FOR ST. PETER'S.

it is evident from his position at St. Peter's as Bramante's assistant that Sebastian Serlio, who was his pupil, got Bramante's plan and section of the dome and Raffael's proposed plan. Peruzzi made a plan of his own for St. Peter's, which Serlio also gives in his work [fig. 4]. Baron de Geymüller is of opinion that it was merely a slight variation of one of Bramante's; this may be so, but it was made, I imagine, when Bramante's first scheme was found to be too expensive. It is not easy to know exactly how Peruzzi stood in regard to the edifice after Bramante's death, whether he was still assistant architect during Raffael's time or in what position he at first stood in relation to Antonio da

San Gallo the younger. Raffael died 6th April 1520, and on the 1st August after Raffael's death Peruzzi was formally elected architect to St. Peter's, with a salary of 150 ducats a year, and he continued in this office till May 1527, when the sack of Rome took place. He again appears in the same office from 1530 to 1531, and then had a salary of twenty-five ducats a month from March 1535 till his death in January 1536. He became a famous military engineer; is generally credited with being the architect of the Farnesina Palace at Rome; at any rate, Vasari says he made a model of it in 1509-1510, but Geymüller considers

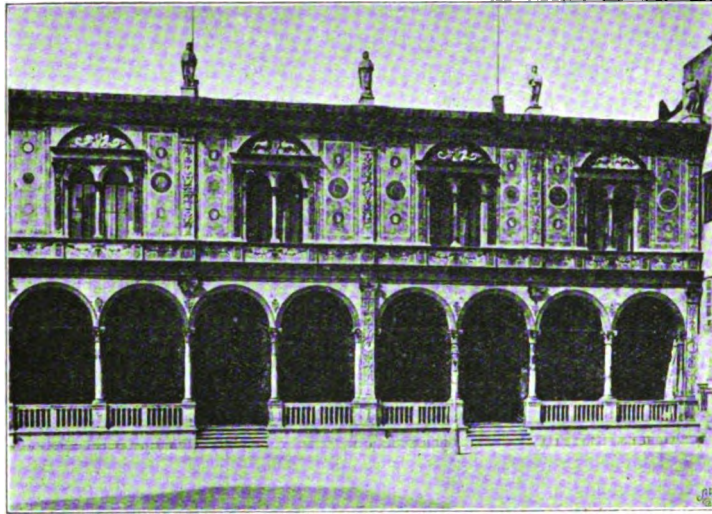


FIG. 5.—PALAZZO DEL CONSIGLIO, VERRONA. BY FRA GIOCONDO.

that this was the work of Raffael. It is not much like Peruzzi's other work nor Raffael's. Many churches, palaces, and other buildings in various parts of Italy are attributed to him, but the two about which I never heard any dispute are the twin palaces of the Massimi, near the Piazza Navona in Rome, which were unfinished at his death, but neither Vasari, Serlio, nor Haudebourt (1828) says who finished them. Perino dell' Vaga seems to have done some of the internal stucco work. To the best of my belief I never saw but one cabinet picture of Peruzzi's, the Adoration of the

Magi, and the three Magi are said to be portraits of Titian, Raffael, and Michelangelo. It is a panel picture in oil, said to be copied from a drawing of Peruzzi by Girolamo da Trevigi, and the copy made from it by Bartolomeo Cesi is in our National Gallery. A great deal of the information contained in Serlio's book, *Libro d' Architettura de M. Sebastiano Serlio Bolognese*, published in Venice in 1544 to 1551, in five books, is supposed to be due to the manuscripts, measurements, and annotated Vitruvius of Peruzzi.

As Peruzzi appears to have been engaged on St. Peter's when Rome was taken by Constable de Bourbon in 1527 and sacked by his men, he was captured by some of the Bourbon's brigands, and from his dignified appearance and manner was taken for some high ecclesiastic, and was tortured to extort a good ransom; but when it was found that he was only a painter, they made him paint a portrait of the Bourbon from his dead body. When Peruzzi got clear of them, his friends seem to have refurnished him and lent him money to go to Siena, but in passing over the mountains he was again attacked by brigands and stripped of all that he possessed, even to his clothes, so that he came to Siena with nothing on but his shirt. After the Bourbon's brigands had left Rome, Peruzzi appears to have come back to St. Peter's, and there is a memorandum of his being paid 150 scudi per annum for acting as architect. Paul III. sent him 100 scudi in his last illness, and he was buried in the Pantheon.

Vasari says he designed the organ case at the Carmino, Siena. There is a beautiful organ case said to be designed by him at Sta. Maria della Scala, Siena, in Hill's *Organ Cases*. That Peruzzi was a very accomplished architect and very versatile there can be no doubt, as Vasari says that many parts of his houses were pulled down, and that he made the designs for San Petronio at Bologna, one Gothic and one modern. The Palace Albergati is also

attributed to Peruzzi. But unless we can meet with some Englishman who has the knowledge, perseverance, and energy of Baron H. de Geymüller, most of the Renaissance architects will not get their due.

B. Peruzzi was one of the most modest and retiring of men; doubtless he was actuated by that desire of fame which Milton so beautifully expresses:—

"Fame is no plant that grows on mortal soil,
Nor in the glistening foil
Set off to the world, nor in broad rumour lies:
But lives and spreads aloft by those pure eyes,
And perfect witness of all-judging Jove;
As he pronounces lastly on each deed,
Of so much fame in Heaven expect thy meed."

Antonio da San Gallo (the Younger) (1485–1546) was the nephew of Giuliano and Antonio Giamberti. Vasari says he was the son of Bartolomeo Picconi of Mugello, a cooper, but his name has been found by Geymüller to have been Coroliani. He learnt the art of carpentry in his childhood, and I must here say that the carpenters of those days were like those mentioned in the Bible who carved wooden statues, and the Renaissance carpenters also inlaid woodwork in patterns. He went to his uncles Giuliano and Antonio the Elder at Rome to study architecture in 1508, when he was eighteen, and Giuliano having to go back to Florence for his malady, young Antonio became acquainted with Bramante, who had the palsy, and was taken on by him as a draughtsman, and in 1512 Bramante put in his hands the corridor that went to the Castle of St. Angelo. After Bramante's death and the appointment of Raffael, Antonio was employed at St. Peter's as a carpenter. Raffael asked for an assistant, and on the 22nd January 1517 was given Antonio; this later date is probably the ratification of the one above given. Of course Antonio had become known to Popes and Cardinals; he began the Farnese palace [see headpiece, p. 453], and when Cardinal Farnese became Pope as Paul III., 13th October 1534, Antonio altered it to make it worthy of a Pope. It consisted of at least two palaces, and was carried on bit by bit as the Cardinal could afford, but was left unfinished at Antonio's death. The top story is reputed to be Michelangelo's, but it may be by Vignola or Melighino; it is evidently not by Antonio. Michelangelo also suggested the great cornice, which it is said he got Vignola to profile.

Antonio da San Gallo the Younger left a model of his own scheme for St. Peter's (made by Labacco, and costing 4,184 scudi; it is now in the model room at St. Peter's), by which he proposed to make the basilica into a Latin cross by adding a narthex and making an open-air entrance beside to the nave. The four bell-towers which were to have stood over the sacristies were done away with, but two were carried up at the ends of the narthex, whose steeples are as high as the lantern of the dome, and the three apses of the choir and transept had aisles. Wren seems to have adopted Antonio's crowning of the ribs of the bell-towers for his spire to Bow church.

I may here draw attention to the recurrence to a Latin type by previous architects, Fra Giocondo, Giuliano da San Gallo, and Raffael, who either preferred the Latin cross or were prevailed upon to adopt it by the conclave of Cardinals, or by their own particular ecclesiastical patron. Antonio had also adopted a dome of solid masonry, a dome like Bramante's, instead of the double dome of Brunelleschi imitated by Michelangelo. The masonry of Antonio's dome appears to be about 17 feet thick, while at the bottom of the drum it was 42 feet, and he appears to have one or two spiral staircases in the thickness of its masonry to go up to the lantern; but how a practical man could have supposed that the piers he had would support so enormous a weight is not evident, unless the existing piers were to be pulled down and replaced with solid porphyry. This design of

Antonio da San Gallo was made before Michelangelo had anything to do with St. Peter's, but he had seen the model, and when someone said "This design gives a fine field," Michelangelo said, "Ay, verily, for animals and horned cattle, who know nothing of architecture!" In my opinion the best design for the front is one given in Geymüller's book (plate 41), but whose design it is I am unable to say, and its only identification by the Baron is that the writing on the back of the drawing is Antonio's. This is often called Raffael's design. Geymüller, however, believes it to be by Perino del Vaga; but if not Perino del Vaga's drawing the central part looks as if suggested by it. This central part contains a majestic archway with two arches



FIG. 6.—PALAZZO PANDOLFINI AT FLORENCE. DESIGNED BY RAFFAEL, CARRIED OUT BY ARISTOTILE DA SAN GALLO.

about half the height on either side, and then come the bell-towers. In my opinion the bell-towers are too wide, being only a third less in width than the centre portion; and being very elaborately enriched with architectural features they draw attention away from the centre as well as rather overpower it by their magnitude; but the large archways really speak of immense crowds entering and coming out of the building. All the other designs, except Bramante's on the medal, conceal the entrance by columns or porticoes, and in Bramante's engraved design the doorway looks like one of the ordinary size for a church, and the side doors are hidden by columns forming porticoes; the apse is finished by a drum and, I suppose, a semi-dome with a large lantern, and what I suppose to be the nave is gabled; from the elevation the top of the lantern is only just below the string of the main dome, below the peristyle.

To return to Antonio's other works, he fortified Civita Vecchia, he finished the little church of Sta. Maria da Loreto near the Column of Trajan, begun in 1507, built the Baldassini Palace, to which Perino del Vaga added a painted chamber, built another palace close by the tower of Nona, also the tower of the Centelli, and shortly afterwards he went to Gradoli and made there a beautiful palace for Cardinal Farnese; he restored the Rôcca of Capo di Monte and designed the fortress of Capraruola, he erected a tomb for Cardinal Alborense in San Jacopo degli Spagnuoli; shortly afterwards he built a palace in the square of Amelia for Bartolomeo Ferratino and a house for Cardinal Sante Prassade by the statue of Pasquin at Rome. Antonio then got the place of his uncle Giuliano at St. Peter's; there were more fortifications then made at Civita Vecchia, and Antonio's scheme, being thought the best, was chosen. He filled up the holes left by Raffael in the walls of stanze of the Vatican, and shored up the parts that were threatening to fall; twelve thousand crowns were spent in making a foundation in the Tiber for the Church of the Florentines in the Strada Giulia; he then restored the fortress of Monte Fiascone, and on the island of Visentina in the lake of Bolsena he built two little temples, one octagonal and one round, and he built the palace of the Bishop of Cervia. Under Clement VII. he made a courtyard before the loggias of the Vatican. He refronted the Mint and finished the Loggia, he fortified Parma and Piacenza with the assistance of his pupil Labbacco and San Michele, the Roman architect; he built the Pope additional rooms at the Vatican, and he restored Sta. Maria da Loreto which had split; he made the celebrated well at Orvieto with the two winding staircases, he repaired the fortress of Ancona and built one at Florence. He put bastions to the walls of Rome and built the gate of Santo Spirito, he fortified Perugia and built the fortress of Ascoli. Antonio, in Raffael's time, wrote a memorial to the Pope

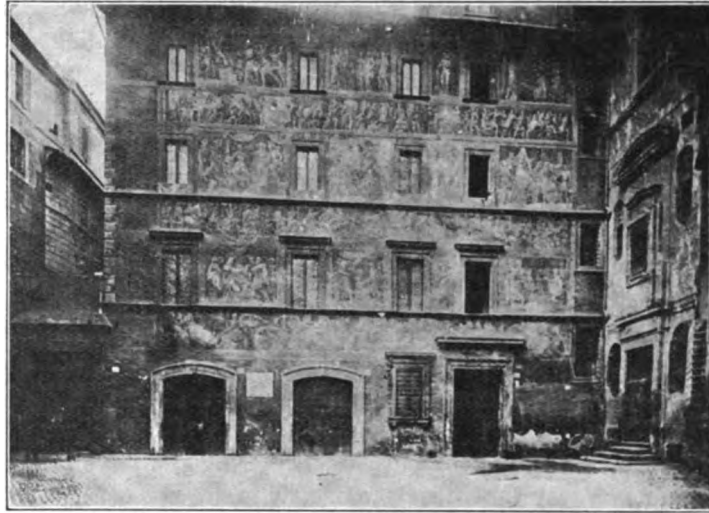


FIG. 7.—A COURTYARD, MASSIMI PALACE, PAINTED BY B. PERUZZI.



FIG. 8.—PALAZZO MASSIMI DELLE COLONNE, ROME. BY B. PERUZZI.

about the way the work was carried on at St. Peter's and the money wasted, and he raised the floor of St. Peter's about ten feet.

Vasari says (p. 468, vol. 5 of Milanesi's edition, Florence 1880), "Antonio enlarged and increased the strength of the piers in the basilica of St. Peter's, so that the weight of the dome might rest safely upon them, he also filled in the scattered parts of the foundations with solid material, and this rendered the whole so strong that there is now no fear of the fabric showing further cracks, nor of its threatening ruin, as was the case in the time of Bramante; and if this masterpiece were upon the earth instead of being hidden beneath it, the work would cause the boldest genius to stand amazed, for which cause the fame and name of this admirable artificer must ever retain a place among the rarest intellects." Antonio was sent to Narni and Terni to prevent the floods from the Lake of Marmora by making a new outlet, an old standing grievance ever since Roman times; during the great heat he got fever and died in 1546, and his body was brought to Rome with great pomp. He was buried in St. Peter's, and had a eulogistic Latin epitaph. In 1526, after one of his returns to Florence, he fell in love with a beautiful young girl, Isabella Dati or Deti, of low birth, whom he saw in the streets there, and, in spite of the remonstrances of his family, married her, but was worn out by her pride and extravagance. He left two children by her, Horace and Giulia. I have always wondered how King Cophetua got on with the beggar-maid after he married her.

Now that the young architects of England have become good draughtsmen and sketchers it seems a pity that their acquirements are not used. No one in England, as far as I know, has attempted to collect the works of the early Italian Renaissance architects, and it would be a great benefit to all students of architecture if someone would measure them and give us figured cuts of them: the students now have to depend on Letarouilly, with all the figures in the ridiculous metre. I do not mean that one man should give the works of all, but should take the works of one good architect and properly and completely illustrate them. France does this for the works of every modern French architect—they are published with a well-printed text and excellent steel engravings. Baron Henry de Geymüller has verified Bramante's works in the most complete way, and I would point to his work as a model to anyone who undertakes such a task. For he has not only personally seen every work that is known to be Bramante's, but, when written evidence has been wanting, he has sought proofs of the works being his by a careful examination of the various collections of drawings that exist in the great libraries and in the private collections of Europe.

England is shamefully behind the rest of the civilised world in the encouragement of the study of the great architectural works of the Romans; we have only Taylor and Cressy's *Antiquities of Rome* with coarse lithographed illustrations; of the Renaissance we have only Alberti's, Serlio's,* Palladio's, and Scamozzi's. The great Earl of Burlington, after a prolonged search, found all Palladio's drawings of the Roman baths save one at Daniel Barbaro's palace; he had them engraved and published in 1730, and, I believe, encouraged Leoni to publish illustrated editions of Leon Batista Alberti's works and those of Palladio; but there has been little done since by Englishmen to illustrate the works of the great Renaissance masters, and of our own architects' works scarcely anything. An exception must be made in the case of Inigo Jones's works, that were published by Kent in 1727, and the *Vitruvius Britannicus*, the last volume of which was published by Colin Campbell in 1725. Gibbs published by subscription his book in 1728, in which his Church of St. Martin-in-the-Fields is given. The Dean and Chapter of St. Paul's has in its possession the whole of Wren's drawings for that building, but has never published them, and the only engraving I know of is

* THE FIRST BOOKE OF ARCHITECTURE, made by Sebastian Serly, entreating of Geometrie. Translated out of Italian into Dutch, and out of Dutch into English.

LONDON: printed for Robert Peake, and are to be sold at his shop neere Holborne conduit, next to the Sunne Tauerne. Anno Dom. 1611.

a section through the dome by Gwynn ; and although Sir William Chambers published a book on architecture in 1759, his great work of Somerset House and the many mansions that he built are not illustrated ; I may mention the beautiful summer-house in the grounds of Castle Howard. Soane published some of his own designs, but I think his great work, the Bank of England, is only published to a minute scale by Britton and Pugin. There are no proper illustrations of Sir Charles Barry's works, not even of the Houses of Parliament, the drawings of which the Government annexed without payment, but has never had the patriotism to have published ; nor are the works of Wilkins, of Cockerell, of Elmes published, and the remainder of the executed works of Soane. The only honourable exception to this scandal is the Dilettante Society, to whose patriotism and taste we owe the various superbly illustrated works on Greek architecture. For Arab architecture we have to go to France, although we have the Moresque work of the Alhambra by Owen Jones, and for Santa Sophia and the other Byzantine churches of Constantinople we have to go to the German Salzenberg.



9, CONDUIT STREET, LONDON, W., 31st Aug. 1901.

CHRONICLE.

Visit to Glasgow and Annual Dinner.

The Annual Dinner of the Royal Institute has been fixed to take place on Thursday the 3rd October at the Windsor Hotel, Glasgow, at 6.30 for 7 P.M. Tickets for the dinner can be obtained from the Secretary R.I.B.A. up to the 7th September, the latest date for receiving applications. The price is 21s. for members and 25s. for their guests. These charges are inclusive of wines and cigar. Tickets will be sent immediately on receipt of cheque. A most satisfactory response has been made to the circular sent out in June, and the visit promises to be in every way successful. On Friday the 4th October an informal visit will be paid to the Exhibition, and the Glasgow Institute will entertain the Royal Institute and other guests to luncheon at the Grosvenor Restaurant at one o'clock. On the afternoon of the same day, by invitation of the Principal and Senate, a visit will be paid to the University, and in the evening the Lord Provost and Magistrates will hold a *Conversazione* in the City Chambers in honour of the Royal Institute.

Building By-laws in Rural Districts.

The Institute has received from the Local Government Board copies of the series of "Model By-laws as to New Buildings and certain matters in connection with Buildings in Rural Districts" recently drawn up by the Board. Copies may be obtained, either directly or through any bookseller, from Messrs. Eyre & Spottiswoode, East Harding Street, E.C., price sixpence. All Rural District Councils who propose to make by-laws relating to new buildings are supplied with copies.

The New Government Offices in Parliament Street.

Several letters have appeared in the *Times* deprecating the intention of the Government to entrust to the Office of Works, assisted by the late Mr. Brydon's chief draughtsman, the carrying out of Mr. Brydon's designs for the Parliament Street Buildings. Mr. Arthur W. Soames, M.P., writes: "The character of Mr. Brydon's design is such

that its effect when completed will depend, far more than it is easy for the public to realise, upon the proportions of the cornices and mouldings, and the design of windows, doorways, and innumerable other minor parts of the building. Mr. Brydon was unable to complete the drawings for these details, and if, therefore, this important mass of buildings is to be carried out in a manner creditable to the country it is of the utmost importance that an architect of the first ability should be appointed to complete the designs of one who had been selected with much care from among the foremost members of his profession" (*Times*, 3rd August).

As regards the "considerable saving" in the architect's fees which the First Commissioner of Works is hopeful of effecting, Lord Balcarras points out that "ample provision was made by the Treasury for the architect's fees; £26,000 was allotted for the Westminster buildings," and of this amount he understood "that not much more than £10,000 was spent during Mr. Brydon's lifetime." "The site," Lord Balcarras adds, "is one of the finest in London, and it would be deplorable if we save a few thousand pounds and thereby imperil the dignity and refinement of the buildings."

Mr. C. A. Whitmore, M.P., who was a member of the Select Committee of the House of Commons that reported upon the sites for the new Public Offices, also supports the appeal to the Government to appoint an architect of distinction to carry on the work.

Mr. Leonard Stokes, one of Mr. Brydon's executors, states (*Times*, 15th August) that the drawings left by Mr. Brydon, and now handed over to the Office of Works, were but incomplete drawings for the carcass of the building. "Two-fifths of the fees due to Mr. Brydon on the whole building were paid for these drawings; therefore it may be taken that three-fifths of the work which Mr. Brydon was employed to do remains to be done by someone." Answering the plea of another correspondent for the completion of the buildings without variation from the original designs, Mr. Stokes says that it is practically impossible. Enough evidence of the designer's intentions does not exist, so that someone must take up the work and give the five or six years of constant attention to it which the designer himself would have given had he lived. "A number of half-inch scale details are in existence," Mr. Stokes continues, "but many of these were hurriedly made to help the quantity surveyors to obtain a tender, and Brydon himself would be the first to admit that these drawings required very careful reconsideration and revision."

The President, Mr. Wm. Emerson, writes:—

"The architecture of our great public buildings is a subject demanding the most careful consideration on the part of those responsible. The enlargement of thought and wide artistic

perception caused by modern travel, and the growing appreciation of art by the educated public, can scarcely be met by the unsatisfactory arrangement for the completion of the above-named scheme under the auspices proposed by the Government.

"One of the most important factors in ensuring a satisfactory result in architectural work, after the first conception has been delineated by small-scale drawings, is that all details and full-sized mouldings should be carefully considered as the work proceeds by the author of the design himself. If this is impossible, as in the present case, owing to the lamented decease of the architect, surely the first thing to be done is to select some first-rate man entirely sympathetic with the class of work the original designer proposed, and of undoubted competence to carry it to completion.

"That the public grasps this point and requires some such assurance of the success of the undertaking there can be no doubt, especially as Sir John Taylor, whose talents everyone admits, is practically retiring.

"Surely the Government can easily take this necessary step: it can hardly be, as has been suggested, that the object is to save the architect's fees that such a course is not to be adopted—for the proper supervision of a work of this magnitude would certainly require a considerable extension of the staff and premises of the Office of Works, and would necessarily entail very much the same expenditure as if it were carried out by an independent architect.

"The history, culture, and quality of nations are shown to future generations by their public works in a most potent manner. One would therefore think that no effort would be spared and no loophole left by which anything but absolute success could accrue to so great a scheme as this block of Government offices.

"I can unhesitatingly say that the architectural profession are awaiting the action of the Government in this extremely important matter with the greatest interest, coupled with some anxiety, not from the view of possible professional emolument, but in the highest interests of the art of architecture" (*Times*, 17th August).

The *Times*, in a leading article on the 26th, strongly endorses the views of its correspondents, and says:—

The folly of the proposed penny-wise action is at once apparent if we ask ourselves, How would they manage this thing in France? The question has only to be asked; the answer comes of itself. Of course, a nation which possesses a real artistic tradition, which respects and fosters art and regards the beauty of its cities as one of the most important of national possessions, would not dream of entrusting such a work to any but the most skilled hands. Professional opinion would make itself instantly felt, and a Government department dare not oppose or ignore it. Professional opinion has spoken here, in the letters of Mr. Emerson, Professor Aitchison,

and Mr. Stokes: and we doubt not that the whole of the Institute and the Royal Academy agree with these gentlemen. We are as yet, unfortunately, a long way from the time when English public opinion instinctively asks to be instructed by the experts, but yet we have made some advance of late years. The architectural conscience of the nation has shown some signs of waking up. Monstrosities are not quite so easily perpetrated as they were; we doubt whether to-day another Queen Anne's Mansions would be a possibility. Our domestic architecture has made a great stride forward, thanks to Mr. Norman Shaw and a few of his contemporaries. If in large public buildings we are yet without the certainty of obtaining a fine result, there is at least some general and more or less acute dissatisfaction if we do not. A sufficiently large fraction of the public has learnt to know the difference between good and bad, whether in a design as a whole or in the details. If, then, the opportunity now given is missed; if the details of the Parliament Street offices are scamped or unintelligently executed, there will be a great deal of perfectly justifiable discontent.

The Queen Victoria Memorial.

The General Committee of the National Memorial to Queen Victoria have agreed to the following recommendations of the Executive Committee (Sir E. J. Poynter, P.R.A., Sir L. Alma-Tadema, R.A., Mr. Wm. Emerson, *President R.I.B.A.*, Lord Windsor, Viscount Esher, Sir Arthur Ellis, Mr. A. B. Mitford, and Mr. Sidney Colvin):—

1. The Committee recommend that Mr. Brock's design for the Memorial be accepted, subject to such modifications as may be necessitated by the scheme of the Memorial as a whole.

2. That Mr. Aston Webb's plan for the general treatment of the space in front of Buckingham Palace be accepted, subject to certain necessary changes.

3. The Committee further recommend that the consideration of the remainder of the Mall scheme be postponed until the amount of the subscription to the National Memorial has been completed.

All the competition designs are to be publicly exhibited.

Professor Aitchison's Portrait.

The portrait of Professor Aitchison by Sir Lawrence Alma-Tadema, R.A., recently exhibited at the Royal Academy, has been lent to the Royal Birmingham Society of Artists for their autumn exhibition in Birmingham.

The late Mr. H. Yeoville Thomason [F.].

Mr. H. Yeoville Thomason, whose death was announced in the last issue of the *JOURNAL*, was born in Edinburgh in 1826. He belonged to an old Birmingham family, his grandfather being Sir Edward Thomason, High Bailiff of the Borough of Birmingham before its incorporation, and a manufacturer who was also interested in art. Yeoville Thomason was articled to a Birmingham architect, Mr. Charles Edge, and subsequently became manager of the architectural department in the Borough Surveyor's office. He afterwards travelled a good deal, and made a study of

architecture in Italy. Before he was engaged on public buildings he was chiefly occupied in designing private residences in Edgbaston and other suburban districts of Birmingham, from 1840 to 1870. Among the important buildings he carried out may be mentioned the Aston Workhouse (about 1865); the Acocks Green Congregational Chapel; the Birmingham District and Counties Bank; the Birmingham *Daily Mail* offices and the Birmingham *Daily Gazette* offices; the Atlas Works for Messrs. Horace Woodward; offices and shops for Messrs. Thos. Hope Bros. in Birmingham; the large establishment of Messrs. Lewis—the first concrete and iron building erected in Birmingham, and his last large executed work, completed in 1886—after which he retired from practice. He was best known in Birmingham, however, as the architect of the Municipal Buildings and Art Gallery in that city. His arrangement of the seating in the Council Chamber at Birmingham, he claimed, had furnished a model for the arrangement of several subsequently erected Council rooms.

REVIEWS.

THE ARCHITECT AS ARBITRATOR.

The Engineer or Architect as Arbitrator between Employer and Contractor. By Charles Currie Gregory, Barrister-at-Law, of the Bar of Nova Scotia. 80. Lond. 1901. Price 12s. 6d. [Messrs. William Clowes & Sons, Ltd., 7 Fleet Street, E.C.]

If this is not a good book, that is due to no want of knowledge of his subject on the part of the author; he shows himself throughout it to be thoroughly conversant with the practice of architects and the law affecting it. And yet it is not a good book. I venture to think it is a work that will seldom be consulted by the practical lawyer and never by the practical architect, and this solely because of two defects, which one would imagine might easily have been avoided. The first of these is the absence of any finger-posts, as they may be called, to direct the reader the way to what he wants; the second, the author's extraordinary mode of expressing his meaning.

As to the first, the author sets out in chapter ii. the scope of his book, which is far larger than the title indicates. It embraces the whole duties of engineers and architects as between building owner and contractor, and he arranges these duties in this way:—

1. Functions of definition of the work required to be performed.
2. Functions of approval of work after it has been performed.
3. Functions for the enforcement of diligence on the part of the contractor, and to afford the employer a means, by his own act, or by the act of his agent, to avoid sustaining injury through a delay in completion of the work.
4. Functions of ascertaining and certifying the amounts payable to the contractor.
5. Functions of arbitration between the parties.

Now this may be a very good skeleton arrangement of the functions which an architect has to fulfil in carrying through a building contract. But it is only a skeleton arrangement. Yet the author treats it as a sufficiently detailed scheme under which to discuss, with the help of scarcely a single sub-heading or cross reference, the whole law relating to architects and engineers. He devotes a chapter to each of the five functions, and it is only in those dealing with functions 3 and 4 that he thinks any further division up of his matter necessary. Then he puts in at the end of the book a chapter on "Extras," which apparently does not quite fit in with the arrangement. This subject he discusses in over sixty pages of small print without a break.

Of course with such an elementary arrangement of his matter there must be continual overlapping. But what, from a practical point of view, is perhaps worse, is that one has the very greatest difficulty in finding exactly what one is looking for. And judging from my own experience, the index attached to the book is of very little assistance in overcoming this difficulty.

And when one does find what one wants, the way the author expresses himself upon it is often bewildering. His language is always highly abstract and frequently involved beyond belief. One sentence—a particularly bad one it is true—will be sufficient on this point. At p. 117 this is printed:—

An excess of the engineer or architect's power under the arbitration clauses of the contract, as well as under those purporting to constitute him the sole interpreter of the contract, and the certifier for payment of the contractor, might be very difficult to be shown, if the provisions of the contract were such that the contractor might, in good faith, set up the contention that the parties having made provision for powers to be exercised by the employer, or by the engineer or architect, which might be exercised in the interim between the ordering of any work and the exercise of the functions of certifying for payment for it, they must have intended that the operation of the provision that the contractor should not be entitled to be paid for any extra work executed by him without the written orders of the engineer or architect, should be understood as being limited to the effect which the engineer or architect should give to it, when, taking into consideration all the provisions of the contract, and the manner in which the various powers therein provided had been exercised, he determined the amount which he should certify for payment to the contractor.

A good mode—when it is possible—of testing the substance of a law book is by comparing the author's conclusions on some point with the decision of the Courts upon it when such decision has been arrived at subsequently to the publication of the book. Such a mode of testing Mr. Gregory's book presents itself, and it must be said that the result is very satisfactory to Mr. Gregory.

There has long been a controversy as to the capacity in which an architect or engineer acts when issuing final certificates under a contract for works by which his certificate is made conclu-

sive as to accounts between the building owner and the contractor. Lawyers, as a rule, have inclined to hold that he acts simply as the agent of the building owner. Architects and engineers, as a rule, have inclined to hold that he acts not as the agent of the building owner, but as a quasi-arbitrator between him and the contractor. The point is important, since if he acts merely as agent of the building owner he is liable to the building owner for any damage resulting to the latter through want of care or skill in granting the certificate, while if he acts as a quasi-arbitrator he is not. Obviously this consideration makes the point of great importance to the architect and building owner. It also makes it important to the contractor, since if the architect is liable for any damage resulting to the building owner through mistakes in certifying, it seems likely that some architects, being only human, will take care that any mistakes which occur in their certificates will not be injurious to the building owner; in other words, when in doubt they will favour him.

This consideration has been strongly present to the mind of the Courts in considering the point. A difficulty, however, in the way of their holding that the architect acts as quasi-arbitrator has been this: If they hold that the architect acts as a quasi-arbitrator in granting final certificates, how can they logically refuse to hold that he acts in the same capacity in settling other questions between building owner and contractor as to the quality of the materials, the quality of the work, the progress of the work, and such like? In all these an honest architect must act not as the mere agent of the building owner, but fairly and judicially as between man and man. But if you hold that he acts in deciding these points also as a quasi-arbitrator then he ceases to be liable to the building owner for want of care or skill practically altogether, and the end of it all is that the architect who is employed and paid by the building owner to supervise the building operations may practically do so as carelessly or inefficiently as he pleases, and the building owner has no remedy. This is counter to an old principle of English law which a great industrial community like England is not likely quickly to abandon—namely, that a man employed to do skilled work must do it with care and skill, or be liable for the consequences to his employer.

This question as to final certificates was before the Court of Appeal recently in the case of *Chambers v. Goldthorpe and Restell v. Nye* (1901, 1 Q.B. 624). The Court were not unanimous in their decision upon it. The majority (the Master of the Rolls and Henn Collins, L.J.), while holding that the architect in deciding the various questions arising during the construction of the buildings was undoubtedly acting merely as the agent of the building owner, yet held that in issuing his

final certificate settling accounts between building owner and contractor he was acting as a quasi-arbitrator. Romer, L.J., held that no distinction could be drawn between his functions in deciding points during the progress of the works and after their completion, and in both he was acting as the paid agent of the building owner.

For the present it may then be taken as settled that an architect in granting final certificates is not liable for negligence to the building owner, except, of course, when such negligence is so great as to amount to fraud. The considerations on which the Master of the Rolls and Collins, L.J., based their decision seem to be identical with those stated by Mr. Gregory at p. 68 of his book, though in this case he states them more clearly than their lordships. After distinguishing the work done by an architect during the progress of the work as the function of defining or directing the work that the contractor has undertaken to do and the granting of a final certificate as approving the work that has been done, he says:—

Good faith may appear to require that the engineer or architect should approve of work which had been performed in accordance with all the directions given as well as in a workmanlike manner and of merchantable materials. But it is not in the exercise of this function of approval of the work, but in that of giving sufficient directions to enable the contractor to know exactly what will be exacted in the exercise of the function of determining whether the work shall or shall not be approved of, that the engineer or architect's conduct is capable of criticism or review. The complete separation of the functions of directing the contractor as to the work to be performed, and of approving of work after it has been performed, enables the former to be regarded as functions of the agent of the employer and the latter as those of an arbitrator, not in the sense of one who adjudicates upon remedial rights arising by law upon a breach of contract, but in the sense of who is called upon to determine whether a contract undertaking has or has not been fulfilled.

Mr. Gregory is speaking merely of approval certificates, but his reasoning applies at least as strongly when the final certificate also settles accounts between employer and contractor.

Probably the distinction here set out and adopted by the Court of Appeal is as convenient practically as any that could be suggested. But it can hardly be said that it is based on anything but convenience. And it places the architect in a very free and privileged position. In granting final certificates he is not an arbitrator but a quasi-arbitrator. If he were an arbitrator he might be removed on proof of prejudice, and his award might be set aside on proof that he denied either side a fair and full hearing. But as quasi-arbitrator he is subject to no such restrictions. Honest prejudice will not legally disqualify him from certifying, and he may certify on any evidence, or no evidence, if he pleases. His certificate binds all parties, and he is liable to no penalty or damages unless he has been guilty of actual fraud in issuing it. This has always been the case as

regards the contractors, and it is greatly to the honour of architects and engineers as professional men that contractors knowing this have long been willing to accept their certificate as final. It is now the case as regards the employer too, and there is little reason to doubt that they will be equally ready to trust to the honesty and uprightness of those whom they retain to supervise their works.

J. ANDREW STRAHAN [*Hon. A.*],
Barrister-at-Law.

WATTON ABBEY.

The Gilbertine Priory of Watton, in the East Riding of Yorkshire. By W. H. St. John Hope, M.A. Reprinted from The Archaeological Journal. Vol. lviii., No. 229, pp. 1-34. [Messrs. Harrison & Sons, St. Martin's Lane, London.]

Travelling north from Hull, through the great plain that stretches from York to the Humber, and shortly after the grey western towers of Beverley Minster have dropped below the horizon, you will notice on the left, 'midst a wood of elms and surrounded by fields of wheat and clover, the red and grey towers of the "Abbey" of Watton. If you wish to visit it you alight at Hutton Cranswick, and after a walk of a mile and a half through the pastures, and having followed the moat which surrounds the buildings, you arrive at the bridge and find yourself before what remains of the Priory. But if you have come armed with Mr. St. John Hope's book, hoping to have a delightful day in exploring the remains of the conventual buildings with the aid of his excellent plans, you are doomed to disappointment, for only undulating grass now marks the spot where he has shown church and cloister and vaulted undercroft.

Of the buildings of the Gilbertine Order, founded by Gilbert, rector of Sempringham, little was known until lately, and much has still to be explained. Of the twenty-six monasteries of the Order in England mentioned by Dugdale, Watton was the largest, and the excavations made by Mr. Hope have proved it to be the most complete. It is therefore regrettable that the results which he brought to light are again lost to us. The only portions now left above ground are the Prior's Lodging, with its beautiful oriel window, the "Old Dining Hall," and a detached building now used as a stable, which Mr. Hope thinks is of a date subsequent to the suppression, but which was more probably built about the same time as the Prior's Lodging. The Priory is said to have been founded in 1150, and was surrendered on 9th December 1539. By the rules of the Order the nuns were completely secluded, and could communicate with the outer world by a window only.

The plan shows two complete groups of monastic

buildings, each consisting of a church or chapel, a dorter on the east over the chapter house, parlour and warming house, a frater on the north, kitchen and lodgings for novices, lay brethren, or lay sisters, surrounding a cloister. These two buildings were connected by a gallery or pentise, midway in which were found the foundations of a building which Mr. Hope thinks was the window house (*domus fenestra*), in which was placed the window and turn wheel which formed the only means of communication between the two buildings. The discovery in the Public Record Office of a survey taken at the suppression enhanced the interest of the explorations, and the dimensions given in it agreed very closely with those of the actual buildings. The plans are carefully drawn from measurements taken by Mr. Hope and Mr. Harold Brakspear, and the book is also illustrated by photographs and details drawn to scale.

Leeds.

FRANCIS W. BEDFORD.

GARDEN MAKING.

The Art and Craft of Garden Making. By Thomas H. Mawson, Garden Architect. Roy. 4to. Lond. 1900. Price 21s. net. [B. T. Batsford, 94, High Holborn.]

We are very glad to notice a second edition of Mr. Mawson's *Art and Craft of Garden Making* within such a short time of its publication. The fact of this early call for another edition proves that the work has met a recognised need, and the additional matter, both of letterpress and illustrations, increases the value of the book.

In his preface to the second edition, Mr. Mawson insists strongly on the importance of massing in the arrangement of trees and shrubs, and indeed of flowers. Small gardens are often spoilt by the restless effect produced by trying to have something of everything—fancy shrubs of various kinds, and flower-beds dotted with specimens, that give the garden a speckled appearance by the indiscriminate mixture. There is, of course, more excuse for this mixing in a small garden, where plants are often cultivated for their individual interest, and where space is limited, but the value of large and handsome grounds is often quite unnecessarily spoilt by the same fault. Mr. Mawson's remarks on this subject supply matter for another chapter to his book.

The additional illustrations are a very welcome feature: they not only elucidate the text, but are in themselves a very pleasant decoration.

The book has been carefully revised throughout, and more than that, for nearly every chapter contains fresh hints and practical advice for laying out the grounds of a mansion or the humbler garden of the villa and cottage.

Cambridge.

W. M. FAWCETT.

RIGHTS AS TO SEWAGE.

By ALGERNON BARKER, Barrister-at-Law (Newcastle-upon-Tyne).

PART III.*—INSUFFICIENT SEWERS—FOREIGN SEWERS.

COMPLAINTS OF INSUFFICIENT SEWERS.—

And now we come to consider what we are to do if we need, and the authority has not supplied, a sewer into which to empty under section 21. We might take seven courses of action, of which four—viz., agreement with the local authority, application through the Parish Council to the County Council, through the County Council to the Local Government Board, and petitions direct to the latter—are good, while the rest are bad. We might have to pay costs even where we took the right method, if our case was bad on the merits. It would be wiser therefore to adopt the good methods in the order which I give, as I begin with the humbler tribunals.

First, there is agreement, which is the best of all, if it succeeds, and, whatever means you are afterwards forced to adopt, the fact that you first tried the effect of courtesy will do you no harm. Indeed, before adopting any other method, first try this, and let the demand be a simple one and not contain extraneous matter (*Ex parte Parsons*. See "Chambers's Digest").

The second plan is to apply through the medium of the Parish Council to the County Council. The Parish Council has power to voice your complaint under section 16 of the Local Government Act 1894, which gives the County Council thus set in motion all the powers which the Local Government Board possesses, as fully as if it were itself that august body. Thus it could lay the sewers at the authority's expense, or could obtain a *mandamus*.

Thirdly, you might state your grievance through the County Council to the Local Government Board. It is the duty of the former (under section 19, sub-section 2, of the Local Government Act 1888), through their medical officer, to report, and, if so minded, to complain, to that Board as to the general sanitation of the county. This plan might be adopted in conjunction with the next, but I should suggest that the officer be persuaded to launch his strictures before you make your complaint.

The fourth method is to directly petition the Local Government Board under section 299 of the Public Health Act. Anyone may make this

petition. The facts must be clearly stated on foolscap; and though there is nothing about plans in the Act, I have no doubt that these would be useful. The ground of complaint must be that the local authority has not provided sewerage sufficient for the drainage of the district, and so the petition should have a noble flavour of altruism and public spirit, and deal with the Council's shortcomings as to others besides yourself. If it could be signed by other inhabitants or ratepayers, this would help.

When finished, the petition should be addressed to the President under cover of the Secretary. The Local Government Board will then communicate with the authority to see if it will repent or if it has an excuse. If the latter is the case, an inspector will appear on the scene and make his report. The Local Government Board will then give or withhold leave to sue, or will itself sue, or will do the work for the authority at the expense of the ratepayers. If action be taken, the judges will as a matter of course confirm the decision of the Local Government Board (unless the latter be acting outside its jurisdiction) (*y*).

When Complaints should succeed.—If you ask for concrete cases to show in what instances the Local Government Board or the County Council would act, there is *Kinson Pottery Co. v. Poole*, 1899, where twelve houses in Ringwood Road in the rustic part of Longfleet seemed to be too few for a sewer to be brought "miles" to them. The sewers, again, need only be sufficient for ordinary sewage and rainfall, and not for special floods (Fitzgerald, P.H.A., ed. 7, p. 22). They need not be provided until the buildings are about to be, or are being occupied (*R. v. Tynemouth R.D.C.* [1896], 2 Q.B., 221, 224, bottom, 225 and 458), and the fewer the houses the less elaborate need the system be (*ibid.*, 225).

Most important of all, however, is the principle that the sewers are not so much required in the interests of the householders as for the safety of the public (*Glossop v. Heston*) (*t*). And see generally note (*s*).

Now for three bad methods, in case they are suggested.

We might try what I will call "moral suasion" of the kind tried last winter by our Irish friends in

* See Parts I. and II., pp. 369, 442 *ante*. The notes to this part will be found on page 474.

Parliament to the discomfort of both "ayes" and "noes." In this case the plan would be to create a nuisance by, for instance, turning our sewage into a roadside ditch or watercourse. If we could prove that the local authority had shirked its duty as to supplying sewers, it could obtain against us neither an injunction nor an order before justices (*Fordom v. Parsons*; *Kirkheaton v. Ainley*). In fact, the authority cannot sue unless it sewer. But then if we illegally pollute a watercourse there is the County Council, empowered by section 14 of the Local Government Act 1888 to take proceedings against us, and also conservancy boards having similar powers. If, again, we foul a ditch, or create an unpleasant odour, the Parish Council may, if they can do so without entering our land, abate any nuisance we create and stop up our drain, and there are plenty of amateur inspectors of nuisances who could proceed. A landowner in a Midland district which shall be nameless tried by this form of moral suasion to spur on the District Council. He quickened the passers-by, but I have not heard that he accelerated the authority's sewer.

Another bad method would be to go direct to the Court for a *mandamus*, for, where an Act has created a special procedure like the foolscap method under section 299, this is intended as a substitute for the ordinary common law remedies (*Passmore v. Oswaldtwistle* [1898], A.C., 887).

The last bad method—*i.e.* obtaining an injunction—one might feel tempted to try when there was a sewer, but it was a bad one. A man might think that, if he could stop up the bad sewer, he could thus indirectly force the authority to supply a good one. One cannot, however, thus ventilate one's grievances by a side wind (*Glossop v. Heston*; *A.-G. v. Dorking*).

Compelling home Council to compel in home District.—Thus the local authority can be compelled to afford sufficient sewers for the drainage of the district; but suppose that in order to do this they themselves have to use force, can we compel them to compel either access or purchase? I am sure we can. *Glossop's case* leaves room for this opinion. Railway companies, which are not usually bound to make a line, can, when they are so bound, be forced to use, or punished for not using, their powers of compulsory purchase (*R. v. L. & Y. Railway*; *Cohen v. Wilkinson*). Why, then, should not local authorities, which are bound to supply sufficient sewers, be forced to wield their compulsory powers against intervening owners, if adequate drainage is unattainable unless these are exercised?

The method of compelling to compel would be as follows: The Local Government Board or County Council to whom the complaint was made could either obtain a *mandamus* to force the authority to compel, or could, as its agents, carry sewers under section 16, or enforce sale of land—

i.e. exercise its powers of compulsory access or purchase. The surveyor must still be reckoned with in the case of compulsory access as to "lands," and, if he supported the Council, the sewer could not be carried under section 16.

Compelling home Council to supply Sewers in foreign District.—Can you force your Council to provide sufficient sewers in the district of another? Yes, I think that if such sewers are really needed to drain the home district, as, *e.g.*, where your sewage has *not* already crossed the borders, or, if it has crossed, is dammed back owing to the bad outfall in the foreign district, and they can at a comparatively reasonable cost be made, their supply could be enforced (*u*). In laying these sewers in an adjacent district, whether compulsory access or purchase has to be exercised or not, an authority must carry out the provisions of sections 82–84 of the Public Health Act, and obtain the sanction of the Local Government Board. (For details see *ante*, Part II., p. 450, col. 2, "Compulsory Access or Purchase in Neighbouring District.") All the sewers thus made by the home Council in the foreign district will, unless otherwise agreed, be home sewers.

Here, then, we may compel compulsion, but subject to the above conditions and also to the same restrictions as in the home district. (See last Part, *sub* "No Trespass").

One thing your authority cannot do: it cannot, I think, without the sanction of the neighbouring authority, empty into its sewers (*w*). You cannot, therefore, force your Council to insist on doing so, but I think you could compel it to make a reasonable attempt to obtain such sanction. But this is anticipating the next topic.

FOREIGN SEWERS.

We now proceed to the third class of receptacle into which (under section 22) you can empty your drainage, and that is the *sewers of the neighbouring authority* (see last paragraph of (*u*), p. 380, Part I.). Under this head we will also discuss the rights, if any, of your local authority to do the same. If you are so fortunate as to be near the borders of an authority which is blessed with an eligible system of drainage, you may sometimes find, in spite of the fact that you will have to buy your rights, that this is preferable to troubling and being troubled by your own Council. By section 22 of the Public Health Act "the owner or occupier of any premises without the district of a local authority may cause any sewer or drain from such premises to communicate with any sewer of the local authority" (that is, the urban or rural authority adjoining) "on such terms, &c., &c." The terms are those agreed upon. In default of agreement, you will within a reasonable time have the right to choose whether the terms shall be settled by

arbitration or by justices of the peace. These foreign sewers may be within the home district. The right is absolute, subject to terms. (See later as to avoiding the restrictions of section 22—last two paragraphs before final “Memorandum.”) To a reasonable extent the size of the aperture from your drain can be curtailed, but the amount of your sewage cannot otherwise be limited. The neighbouring Council has power by injunction to prevent you from connecting if you do not comply with the terms, but, once connected, however wrongfully, it cannot disconnect you on any grounds whatsoever (see *Newington v. Cottingham*).

Here, again, there is an implied stipulation and prohibition against nuisance and trespass, and any remarks on those heads apply here also. In considering the case, however, of a drain-owner connecting under section 21 in spite of the freeholder (see “No Trespass”), I in note (g) differentiated streets and roads, as the latter more rarely carry the sewers of the authority of their district. The reader should at this juncture re-peruse note (g), p. 451. I do not think this distinction can be made in this case, for except in some instances where the borders of districts consist of rivers, which would in most cases make s. 22 useless and needless, as they would usually be impassable by pipes, they usually run at a distance from centres of population (I speak subject to correction), and so sewers near the borders and available for section 22 are at least as often sewers in roads as sewers in streets. I think, therefore, that there is an implied right *as against the freeholders* to excavate both authorities’ roads and their streets. The neighbouring Council cannot forbid you to excavate their streets or roads, or, in certain cases, their lands (see “No Trespass”), for it is their duty to afford reasonable facilities for foreign as well as home sewage (u).

Compulsory Access by foreign Council.—We may have to fall back on *compulsory access* under section 16. In all cases, as we know, double-sewage must be flowing, have flowed, or be likely to flow, so as to give the authority an acting sewer, or an honest excuse for intending a sewer (see “How to produce a Sewer.”)

Neighbouring Surveyor.—If the surveyor to the neighbouring authority is reporting as to the “necessity” for the exercise of its power of compulsory access as to lands, he should not, unless expense be disproportionate, report that there is no necessity, simply because you wish to empty the sewage of premises in another district (u), provided always that the sewage has already crossed, or perhaps if it is dangerously near, the border.

Compulsory Purchase by Foreign Council.—Again, will compulsory purchase avail us as a help to reaching the neighbouring Council’s sewer? We have already seen that this process will require the longevity of a Methuselah, and, for the Coun-

cil, the purse of a Rockefeller. As we are, I think, precluded from offering to recoup the authority which exercises this power, we could only in the most extraordinary circumstances persuade our neighbouring Council to help us in this way. In what cases will compulsory purchase be useful? It will be found advantageous where (in the case of lands) the Council, indeed, to which we apply is friendly, or can be forced to act, but their surveyor is hostile and irremovable. In this latter case the wielding of compulsory access could not, as we have seen, be forced. Purchase will also be required when lateral support is wanted, or where, as detailed earlier in this lecture, Part II., p. 449 (q. v.), War Office or Admiralty estates, or certain property of statutory land improvement and canal or harbour bodies, intervene (x).

If it is desirable that the foreign Council exercise compulsory powers in the home, or in *some third district*, see “Compulsory Access or Purchase in neighbouring District,” *ante*.

Complaints against foreign Council.—We could (u)—but only if our sewage had crossed the border—by complaining of the neighbouring Council (*i.e.* the authority in whose district our premises are *not*) under section 299 or analogous methods (see “Complaints of Insufficient Sewers,” *ante*), compel it to supply sewers, and even to exercise its compulsory powers, though the sewage was imported (u), in just the same way as if it had been indigenous—*i.e.* where adequate drainage of its own district is unattainable unless these powers of compulsory access or purchase are exercised (v). But if our sewage had united (not of course in a foreign sewer) with other sewage on our side of the border so as to vest the sewer in our authority, the matter would be out of our hands, while our authority has no powers of forcing its neighbour to receive its sewage into existing sewers, and therefore could not require the latter to make new sewers.

If we wish to enforce on a foreign council the exercise of compulsory powers, our *bona fides* would not have to be merely transparent, but even “simple and childlike,” and the volume of sewage would have to be Mississippi. I may refer to my previous remarks as to compelling to compel.

But circumstances may be such that we can avoid the restrictions of section 22 by “producing a sewer” (see u in Part I., p. 380).

Again, our premises may be one, but be half in one district and half in another, in which case we could choose whether we would consider our connection as being under section 21 or 22, or if we “produced a sewer” under neither.

The drain-owner cannot connect with the sewers of a district under section 21 instead of section 22 simply because he has drain-pipes there (a in Part II., p. 451), unless the fount of the sewage is also there.

Council's rights of emptying.—The other authority can agree to accommodate the sewage of your district, under section 28, to which I refer, subject to the sanction of the Local Government Board, and to the provisions of section 28 and, where the sewer is in the foreign district, of sections 32-34, so far as applicable, and can agree to take storm waters and the sewage of some third Council which drains into the sewers of your Council. A deadlock, however, may arise when your authority tries willy-nilly to pour its sewage into the neighbouring authority's sewer, for it is not very clear whether under section 28 your Council would have an absolute right to do so. There are good reasons for thinking they can, and there are good reasons for thinking they cannot. I argue the matter at length in note (*u*). I have come to the conclusion that they have *no such absolute right*, even subject to the sanction of the Local Government Board and to the provisions of sections 32-34.

This may conclude the consideration of our rights as to sewers. It only remains to give in a short form, as it were, a remembrancer, founded on our investigations and discoveries.

Memorandum.—When building an erection or laying out premises which will give off sewage, first see what kind of receptacle, be it sea, tidal river, cesspool, private ditch, field, sewer of your own Council, or sewer of its neighbour, and what site and elevation would afford you the greatest sanitary advantage, having regard to expense of construction. That is a matter on which the law will not enlighten you. You may, however, find that owing to legal difficulties you have to fall back on the second or third best, or to change your site, or "produce a sewer," so as to obviate the obstruction of intervening owners. By moving your site across or partly across the border you may also avoid interference under section 25 or 23, or gain rights over another district. By producing a sewer you may in addition avoid the restrictions of sections 21 or 22, saving the expense of making a longer drain or of cleaning the existing drain which you thus sewerise (see *s, u*, in Part I., p. 380). The next thing to do will be to look through the memoranda contained below, and, as the case requires, revise and if necessary delete them in accordance with the law of the place in which you build, *e.g.* the by-laws of Little Pigswill or Hogs Norton, or with the Public Health Act Amendment Act 1890, which has been adopted by the Council of Asses-milk-cum-worter or with the Mudchester Improvement Act. I regret that I have been unable to deal with these in the present lecture. We may then consider the memoranda given below. For convenience I treat the reader and the drain owner as one person.

I. Generally: Whatever receptacle you choose,

think whether your duties under section 25 or 23 interfere with your rights. As to this I must refer you to a later lecture.

II. Special: (i.) You choose sea or tidal river. Has the Local Government Board made a provisional order vetoing it? Information as to this is very hard to obtain.

Is the sewage alone, or in conjunction with other sewage, likely to kill salmon, or is the drain against a sea-fisheries by-law? (See Addenda, *post*, note *u* to Part I.)

Is the freeholder or other person who is interested in the foreshore likely to object? Will there be a public (see *e*, Part I., p. 379) or private nuisance?

(ii.) You choose a cesspool or private ditch; will nuisance arise from this?

(iii.) You choose the authority's sewer, then

(1) Examine their map of sewers, and (2) think if you need trouble about section 21 at all. You can perhaps "produce a sewer" as described above and below under the seventh head, and save cost as well. (3) If you cannot do this, remember to give notice, if required, to the authority and read their regulations as to connections, and wait till Doomsday for their official. (4) Discover what streets intervene in their district, and whether you are the freeholder to half across the street, and whether the sewer lies on your half. See what route the Council or the freeholder (if you are not that person) would require you to take, obeying the Council where these directions clash. (5) You will then ascertain as to intervening roads, and had better for safety apply to the freeholder verbally (if you are not that individual), and also to the County Council as to quondam rural parts of main roads, if you must disturb surface. This last requirement as to main roads may involve an examination of the history of a district to see if it was rural or urban before the Local Government Act of 1888. (6) Then the intervening lands must be considered, and the leave of freeholders and leaseholders obtained—except, perhaps, where your own Council occupies and has the freehold. (7) Suppose there is hostility on the part of owners of intervening roads, vaults, or lands to be overcome, can you meet it? Only by producing a sewer, *i.e.* by supplying or promising double-sewage.

(A) The first person, therefore, who regrets he can't see his way to admit your conduit, &c., &c., you should look once more at your plans, and at the neighbourhood. Will friend Jones abolish the dear old cesspool which has been consecrated by generations of Joneses? Have you or has your neighbour, while the house is being built, put workmen's conveniences into it or into a shanty and furnished them with water and drains? What will Smith do with the drains of his new building? Will you put up another villa to accompany yours? Will the establishment sup-

port a gardener, or where are the pig-owning tenants who will rent during operations?

(B) Again, look around and see if you are likely to have neighbours and can in this way promise double sewage to the authority. Then, again, are there sufficient people who will benefit, having regard to the feet of sewer to be carried and the costs of access, for the authority may wish to leave you in the lurch?

(C) There will also, in the case of lands, be the surveyor to see. I have said on what rules he should or should not act, but it would be inadvisable to try to teach him the law. If he is obdurate, you might calculate the chances of his "resigning" his office at the request of his Council; but such a dismissal, if desired solely to please the building owner, would be unlikely, objectionable, and ineffectual. Then there are other matters which may be safely left in the hands of the Council, and have been already dealt with in the foregoing pages.

(D) Is any of the property Crown property? If so the leave of the Crown must be obtained. There is no compulsory access over War Office and Admiralty property. Remember that compulsory access may find vulnerable points in the armour of the statutory drainers, canal and harbour owners excepted in sections 327 and 328.

(E) Perhaps [compulsory purchase may avail you in the case of these bodies, the Crown always excepted, and also may be useful where the surveyor is recalcitrant, or if lateral support is required for the sewer. I refer to previous remarks and notes.

(8) Your authority may have sewers in the next district, with which you may wish to connect, or you may wish to persuade or to force them to supply such. Remind the Council if necessary, and without offence, of the advertisements and notices as to sewage works without the district.

(9) What about rivers pollution (section 8 Rivers Pollution Act), and the 100-feet rule under sections 25 and 23 of the Public Health Act? What about fish-poisoning?

(10) Suppose there is no sewer to empty into, can you insist on having one? Yes, if on the merits you have a good case, after a courteous and relevant request, you can apply to the Parish Council, to the County Council, or to the Local Government Board, and this I think is the order in which you should apply. The house or houses must not only be erected but be ready, or nearly ready, for occupation. The Council need not drain the plans in your office. One building may, if large enough, require and deserve sewers. Private disease may lead to public epidemic. The prevention of public epidemics is the object of the Act.

(iv.) You choose the neighbouring authority's sewer—i.e. a foreign sewer. Well, then, all these questions in (iii.) may be asked again and these

hints reperused. In this case, if you "produce a sewer" (see iii. (7)), section 22 will be deprived of its sting. Will you build also in the neighbouring district, and be under section 21 there? Again, the foreign sewer, though vested in the neighbouring authority, may be in your district, and you might find such a sewer specially useful where its guardian Council was friendly and the surveyor of the latter inclined to report "necessity" as to intervening lands where your own would not. If the neighbouring surveyor is hostile, can he be dismissed? Is the property "excepted property"? Will compulsory purchase avail you? You can only bring force to bear on the foreign Council by pouring sewage into or perhaps dangerously near its district. But I refer to the whole of the above remarks in (iii.).

(v.) A few other notes as to both (iii.) and (iv.) may be made.

If both Councils are willing to compel access for a sewer, or sale of property, then let each (so far as requisite) do so in their own district and save expense under section 32, &c.

If it would indirectly benefit you that your Council or the neighbouring one should drain into the other's sewers, and the Council which is requested to receive the sewage objects, then you may lay stress on the arguments (*w*) which might be adduced to show that objection is not permissible, or see if some intervening private sewage farm in either district cannot give the donors of the sewage such absolute right under section 21 or 22.

If your own Council is hostile and your neighbour willing, but the outfall should, on account of the lie of the ground, be in your own district, then compare the expense and feasibility of a foreign sewer there under section 32, &c., or a home sewer there enforced by section 299, and *vice versa* if the foreign Council is hostile, and you prefer outfall in the foreign district.

Thus we have seen your powers to empty into sea, tidal river, and cesspool; your power to empty your drain into your Council's sewers, or, property intervening, to obtain the same result by "producing a sewer," and persuading or forcing your authority to compel access; your means of forcing your authority to provide you with sufficient sewers; your rights to empty your drains without the district; and your weapons for combating the obstacles to your doing so which may arise.

When I was requested this second Session by your Hon. Secretary, Mr. A. B. Plummer, of this city (Newcastle), to read a second Paper on "Legal Topics," I willingly consented, but I fear that he hardly expected such a legal inundation. I must therefore apologise for the fact that even in this lengthy lecture I have not been able to deal with the question of duties as to sewers and sanitation generally, a topic which presents a field for inquiry as wide as the subject of sewage rights. Then there must be considered the various local and

adoptive Acts, and the by-laws, which may modify much of the law which I have laid down, for home rule in sanitation and building law is an established principle of the Acts which concern the builder. As the divine Rudyard sings :—

"The wildest dreams of Kew are the facts of Khatmandu,
And the crimes of Clapham chaste in Martaban."

We are therefore only on the fringe of a vast subject. You may, perhaps, find this lecture of use to you when you purpose to build, but I may conclude with the hope that you will not find it necessary to fight for your sewage rights, and that surveyor and Council alike will take a pride in helping you to attain the smiles of Hygeia, and to defy her father Æsculapius, an object more essential to the householder's happiness than even the quaint, the home-like, or the picturesque.

Notes to Part III.

(a) *Complaining of insufficient sewers.*—In *Glossop v. Heston, L. R.*, 12 Ch. D., p. 118, Lord Esher said: "In my opinion no district can be said to be satisfactorily drained where any part of the drainage causes a nuisance" (i.e. a public nuisance as explained later on). In *Molloy v. Gray* [1889], 24 L. R., Ir., 258, it was held by Pallis, J., who quoted the above, that the authority is bound to see that the sewers shall be fit to carry away any faeces, which would otherwise be likely to create a nuisance in the district. The householder was not, he thought, to be relegated to the dry system because the authority's sewer was unsatisfactory. These cases, however, do not help us, for they only applied to a nuisance created through people draining into a sewer of the authority which had either an unsatisfactory outfall or was in bad repair. In such a case the authority could clearly not have stopped the users of the sewer. I think we must confine "nuisance" as above used to nuisances to which the authority could not object—i.e. to nuisances which were really due to their default in sewerage the neighbourhood. We therefore learn from the above dicta that the authority should sewer where they ought not to omit to do so. One wishes that all propositions of law under this Act were as self-evident. For all this, on the principle mentioned in the next note it is clear that, however isolated a householder, the authority must come to his assistance with a sewer if any other means of draining is a source of danger to the public. The judge in *Molloy's* case said that he would make allowances in poor neighbourhoods. But one asks, Is poverty a crime to be punished by disease from cheap and nasty sewerage? I presume that the judge meant thinly-populated districts.

(b) *Isolated houses and cesspools.*—Another question: Suppose you had an isolated house or houses, and owing to the character of the land and the trend of the underground waters, or to the smallness of your ground, a cesspool would be a danger? I think that if the cesspool threatened typhoid and consequent epidemic you might insist on sewerage accommodation in very many cases, even though the nuisance did not take place in a sewer as in *Heston's* and *Glossop's* cases. Though I should not advise you to cover the whole of the site, you could assert your claim to build on a small piece of land just as the householder there was vindicated by the Court in *Molloy v. Gray* when she abandoned the dry system. You would then argue on the principle that the public weal is the test of the necessity of sewers, coupled with the self-evident fact that disease to one may lead to disease to many. The pith of the

case would be "I can't be made to change. A change is necessary. The Council must make the reform." (See remarks on surveyor's report as to compulsory access.)

(u) *Sewers for imported sewage.*—The neighbouring Council, like all Councils, is bound, under section 15, to make sufficient sewers for the drainage of its district. This drainage includes imported sewage. The words of the section clearly bear this interpretation. If a farmer undertakes to drain his field, he could not escape providing drains for the overflow from a neighbour's field. Again, the spirit of the Act forces one to this conclusion; for the object of section 15 is the benefit of the public, and one has yet to learn that imported sewage is any less virulent than the home production. Nor can the foreign Council insist that you keep your sewage within your own borders. Of course, however, necessity and relative expenses will be considered. Even if you had only a way-leave for a pipe-line, the landowner who granted it would be a rate-payer, and so this would make it more or less fair that his Council should provide a sewer; and, even if it were not fair, the Council, if urban or urbanised rural, could, with leave from the Local Government Board, declare his land a special drainage district (s) Part I., p. 380).

(v) The advertisements and notices, though not specially directed to the neighbouring authority, are intended to bind it (Fitzgerald, "Public Health Act," p. 33).

(w) *Authorities and their neighbours' sewers.*—This note may indirectly be of value to the building owner. Can an authority, with leave of the Local Government Board, and subject to agreed or settled terms, insist, as against the neighbouring authority, on connecting, as of absolute right under section 28, with the sewers of the latter? This section should be carefully read before these remarks are perused. The question is a very difficult one; but, on the whole, I think that there is no absolute right. For absolute right there are five arguments which are fairly sound—viz.:—

1. Founded on the words, "in case of dispute to be settled by the Local Government Board." This is an argument *ad absurdum*. It will be unintelligible unless the section is read. "Fancy," it might be said by the absolutist, "fancy an Act which carefully empowers an authority, which, according to the other side, can refuse connections altogether, to make an absurd contract in which the terms were not already provided for, or by which some valuer had not been first appointed to prevent disputes and dissensions, and, instead of first employing a man on the spot in a friendly way, to thus when the milk is spilt call in the cumbrous decision of the Local Government Board in a hostile arbitration to wipe it up!" (See *Collins v. Collins*, 28 L. J., Ch. 184.) The answer to this, however, is that Parliament through its mouthpieces, the draughtsmen, occasionally says strange things.

2. Founded on the restriction of "storm-waters." In *Matson v. Baird*, 3 A.C., 1084 (bottom) and 1085 (top) it was thought absurd to suppose that the legislature intended in such a manner to make a stipulation in favour of people who could have made it for themselves, since they had the power to refuse to contract at all. It was therefore presumed that the legislature intended the stipulation to be a restriction on absolute rights which *did* exist in the other party. Taken with 1, the absolutist's case is all the stronger for the other side. Sanctionists must suppose first that Parliament carefully gives leave to make an idiotic contract, as in argument 1, and then interferes as to storm-waters to enforce prudence. But the same answer may be made as was made to 1.

3. Because there is a special provision that "storm-waters" and third Council's sewage are not to be emptied "without consent," which would go to show that other sewage, which is carefully left out of this clause, *might* be poured in without consent.

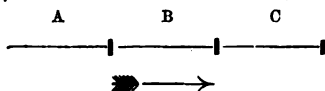
4. The hardship to a hinterland district, if a marine

or riverside district could thus fend it off. Answer: that the former can drain into tanks or into sewage farms.

5. The communication would be a sewage work, and therefore enforceable upon the neighbouring Council under sections 32 to 34, if the Local Government Board so desired. The notices under those sections were intended to bind Councils (*Wimbledon v. Croydon*, 32 Ch. D., 421, and *Fitzgerald*, 33 (and see note v)). But it may, on the other hand, be argued that sections 32 to 34 are not permissive, but are prohibitions cumulative on any other restrictions which may exist, and also that sections 32, &c., do not apply to foreign sewers in the home districts.

In answer to the "absolutists" it may be said by the "sanctionists," (i.) "Why is section 28 couched in different language from section 22, which omits the words 'by agreement'?" This argument cannot be answered unless the Courts will strain themselves to transpose and distort words (see *Maxwell*, 320, as to eliminating words see p. 329, supplying words, 351, "or" for "and," and "and" for "or," 332). The Courts do sometimes thus distort words. But, to my mind, this first argument settles the question. (But note the useless contrast between sections 21 and 22, mentioned in note a.)

(ii.) Again, the sanctionists might say, "The other side argue that one Council cannot refuse another's sewage. Therefore C District must receive B's sewage, and at the same time B must receive A's. This would contradict the last words of the section as to third parties' sewage." (The answer to this argument—and, I think, a fairly good one—is that this would be an exception, not a contradiction, and therefore the proviso might be thus read: "If B receives A's, C may refuse B's. If C receives B's, B may refuse A's.")



(iii.) Hardship. (Answer: That compensation, &c., is given, and therefore there is none.)

(iv.) Marginal note to section. (Answer: This is not part of the Act.)

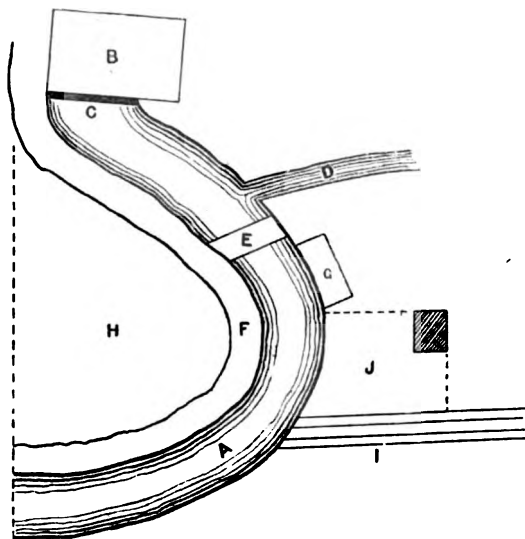
(v.) *A.-G. v. Acton*. (Answer: Distinguishable, as section 28 was not quoted, and would have been inapplicable, since the Local Government Board had never sanctioned.)

I must apologise for the length of these arguments. I feel that perhaps I am propounding rather than solving the problem. Note that even where there is no compulsion either of intervening owners or of adjoining Council, section 32 at least must be obeyed (*Jones v. Conway*). (As to the state of things before this section was law, see *Hayward v. Lownds*, 28 L. J., Ch., 400.)

Perhaps a private person having a sewer "for his own profit" might pass his Council's sewage through it, and thus drain for the latter, as of absolute right, under section 22, into the sewers of the neighbouring authority. Such a case would arise where a man had a sewage farm (see "Own Profit," p. 377 *ante*) and drained the effluent across

the border. Perhaps the Courts would find a method of brushing aside such an evasion of section 28.

(x) *Statutory navigation bodies, sections 327 and 328 (Excepted Property)*. (See Part II.). (All the property set out in plan belongs in some sense to the above bodies.)



Under section 327 (unless consent)—

A, River or Canal.
B, Dock, Harbour, Reservoir, or Basin.
C, Lock.
F, Towing-path.

Subsection 3. Must not interfere with traffic.

D, Watercourse feeding river.

Subsection 4. Must not affect quantity or quality.

E, Bridge.

B, Dock, Harbour, Reservoir, or Basin.

Subsections 5 and 6. Must not interfere in any way, i.e. touch at all. (See text.)

G, Wharf or Quay.

Under section 328 —

H, Land required for improving, e.g. straightening.

I, Works, e.g. a railway (not being on wharf).

J, Convenient Land, e.g. contains employé's house.

Arbitrator can forbid if real incompensable damage.

(y) *Local Government Board, s. 299. Ultra Vires*.—If the authority carry out properly a recognised system of sewage disposal, the Board cannot impose some other upon them (see report of the Manchester and Leeds Commission, just held).

ADDENDA AND CORRIGENDA TO PART I. [p. 369].

P. 369, after "taboo" refer to note (u) at end of addenda, and put commas after "field" and "ditch."

P. 372, col. 1, l. 12, after "Lumley holds that the conduit would not be a 'drain,'" add "under s. 4, but seems to think that being a drain in the popular sense it would be under s. 21. Against this view the reasoning which follows falls harmless. And on line 26 read 'it' for 'you' in 'you will either be forced.'"

P. 372, col. 2, l. 13, put asterisk after "local authority under this Act," and at bottom of page put "See case

as to Dr. Wroughton and Messrs. Platt & Hendry reported in the *Carlisle Patriot*, 14 June 1901. The Local Government Board can prevent a road from coming under the authority of a rural district council. Remember that the drain owner cannot empty sewage into the authority's road drain."

P. 375, col. 2, top, "this adjunct" not "his adjunct."

" " l. 20, "degrees of potency" not "degree."

P. 376, col. 1, l. 11, "long leaseholds" for "a long leasehold."

P. 376, col. 1, bottom, after "that pipe becomes a sewer," add

"Under the source test we may consider the question whether a sewer needs a building. The answer is undoubtedly no, whatever we may think regarding the analogous question as to a drain.

We may also ask, if the absence of a building will make the conduit from one set of open premises a sewer, e.g. the trenches or nicks in the concrete of an open cattleyard. My opinion (d) is that such are drains, but if they are not, then they are sewers.

Drains from authority's roads are sewers but are not under s. 21, and drains cannot be emptied into them.

P. 376, col. 2, l. 2, insert "of Meader's" between "several" and "houses."

P. 379, end of (c), after "of doing it," should read "On the other hand, the client could sue the architect if he had been negligent in performing his contractual duties. An architect is not a legal adviser, and his duty, if matters were left to him, would be in cases of doubt to consult a solicitor at the owner's expense."

P. 379, as to (d).

It has been suggested (1) that the words "premises within the same curtilage" are to be taken to mean premises *ejusdem generis* with "one building only." This would frustrate the object of the Act, as it would exclude yards and yard sinks.

(2) That "same" means "same as the one building," and not "one" or "same as each other." In this case, however, an open cattleyard could not drain, and its very floor would vest in and be cleanseable by the authority as being "sewers"! (There are no special provisions as to draining cattleyards or markets.) Again, this contention would have made Rigby, J., right in the Shoreditch case. For he took this view and argued that, "the premises" being "within the same curtilage" as more than "one building only," i.e. as two blocks, the definition was not satisfied. His reasoning was sound if interpretation (2) is correct, and yet he was wrong. Further, "same," when in an adverbial phrase, refers to the nearest antecedent. See Stroud's journal, *sub* "same," Coke on Littleton ("eadem forma"). Lastly, the Imperial and other dictionaries show that "the same" primarily means "one" rather than "that."

(3) That "premises" in itself means "appurtenances to a building." The cases in Stroud *sub* "premises" do not, if carefully considered, favour this view. We must be content with the statutory and the more primary popular meaning.

P. 379, (e) top, after "before August 1876" add "and did not also empty directly into sea or tidal river."

P. 379, after "In the case of old drains which poured" add "or were at that date being constructed to pour."

P. 379, at end of note, add "'Tidal river' does not include the fresh waters dammed up by abnormal tides. *Reece v. Miller*, 8 Q.B.D. 626. Otherwise nuisance would occur for most of the year."

P. 380, (n) add at end "As to sewerage a college, see s. 335, which may perhaps apply."

P. 380, (o) add at end before full stop, "which is held rent free from the employer."

P. 380, (r) last line, 37 not 1837.

"(s) l. 10, for "excusing him," read "excusing the owner of such premises."

P. 380, l. 13, for "builder . . . two or more" read "owner of one of two or more."

P. 380, (t) last par., instead of "for before you connected" read "for at the exact moment you poured your drainage through the connection," and after "apply" add "and when you had done so, the connection had already for some time been made at the fork of the conduits."

P. 380, (u) add a note (u) to Part I.

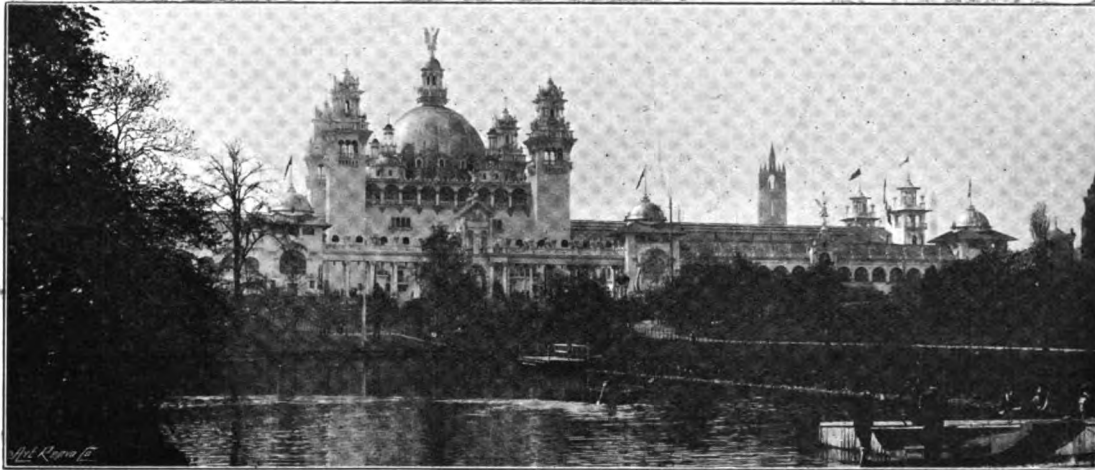
River Fisheries. Whether the stream is tidal or otherwise, the Salmon Fishery Act of 1861, s. 5 may have to be reckoned with. If the sewage is of sufficient amount to "poison fish" (salmon, I presume) in waters where salmon are found or in their tributaries, the drain owner will be liable to fine. He can plead (1) prescription. (2) "Best practicable means of purifying within a reasonable cost" (s. 6). He cannot plead (1) "sewage not poured directly into such waters or tributary" if fish killed there. (*Merrick v. Cadwallader*, 51 L. J. M. C. 20; *Harbottle v. Terry*, 10 Q.B.D. 131, the Whittle Dene Case are not in point). Nor (2) "sewage insufficient of itself to poison without the sewage of others." Nor (3) "place where fish poisoned not within fishery district." The Act is clear.

The Board of Trade is the guardian of fisheries, but anyone can prosecute.

Sea Fisheries. As to pouring into the sea, the Fisheries Committee have, under the Sea Fisheries Act, 1888, s. 2, power to restrict sewage by by-laws, if confirmed by the Board of Trade.

Sewage can either poison fish or feed plants; can make a stream hideous or enhance the beauty of a pasture; can help the earth to nourish man or can decimate him with pestilence. Victor Hugo calculated that Paris pours every year many *milliards* of francs into the Seine! One wishes one could find more statutes protecting our rivers, and that the persons commissioned to prevent the foul and wasteful habit of polluting streams would do their duty, or could be goaded into doing it by some influential society for the prevention of pollution of streams. Whether the proposed central control will avail remains to be seen. Government offices sometimes sleep.

ALGERNON BARKER,
Barrister-at-Law (Newcastle-upon-Tyne).



Glasgow Exhibition : Industrial Hall. General View of North Front.

THE BUILDINGS OF THE GLASGOW INTERNATIONAL EXHIBITION 1901.

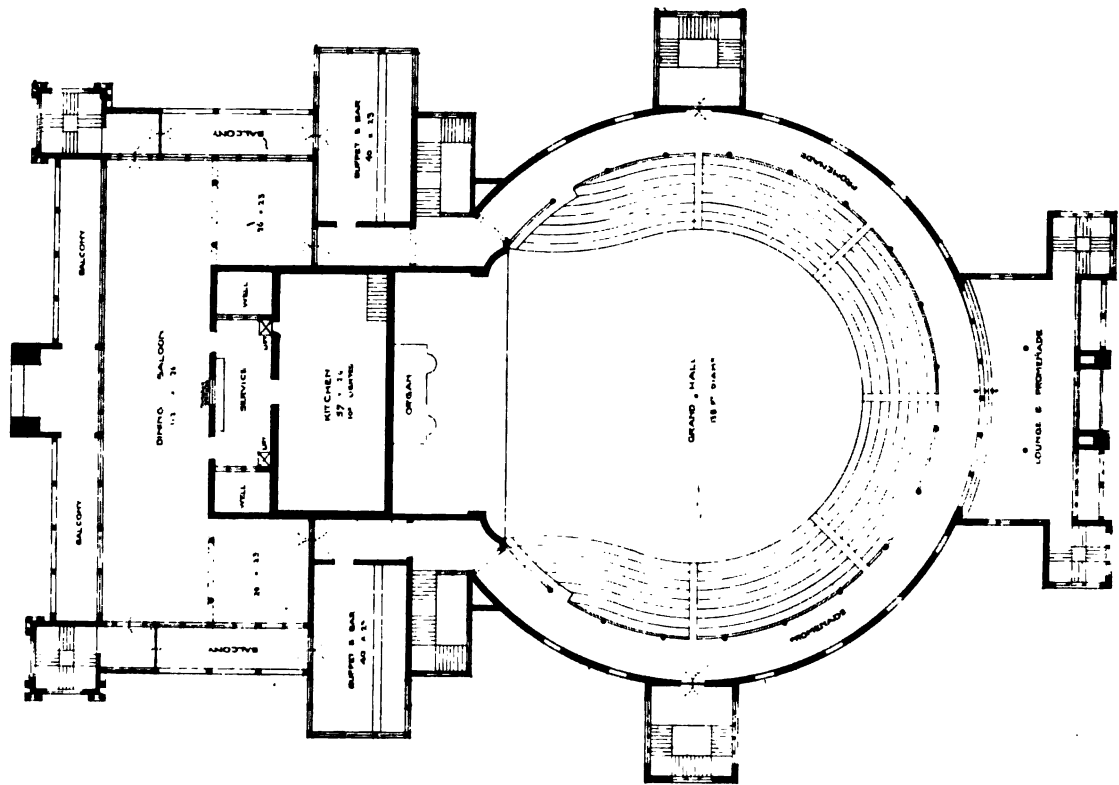
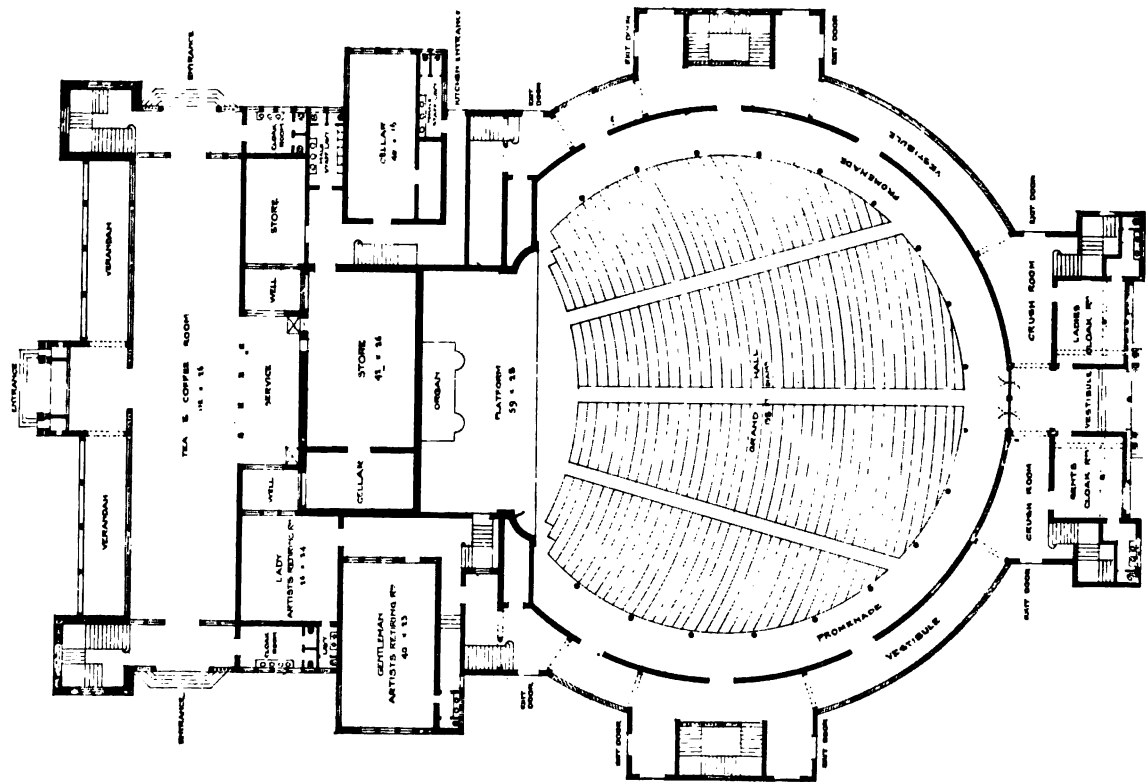
By JAMES MILLER (Glasgow), Architect of the Buildings.

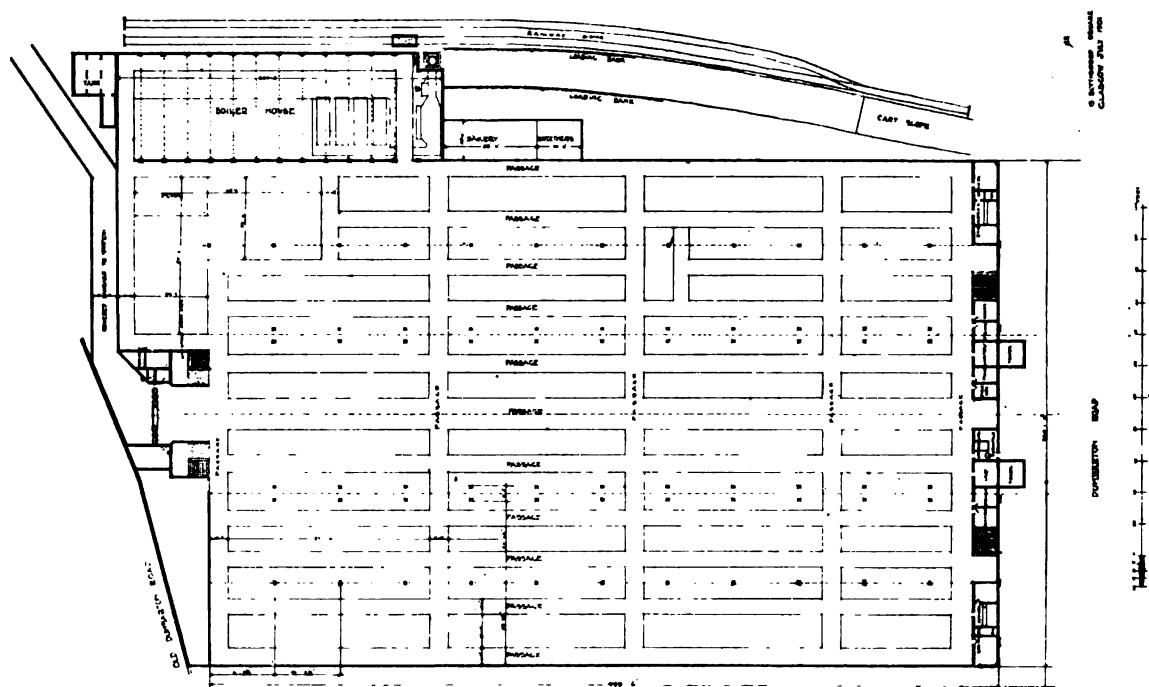
THE site of the 1901 Exhibition is in the grounds of Kelvingrove Park, occupying practically the same position as the former Exhibition of 1888. In the present case, however, an additional six acres were obtained on the Bunhouse grounds, situated on the south side of the park, and separated from it by Dumbarton Road, and on this site have been erected the Machinery Hall, Dynamo and Boiler House, &c.

The chief buildings comprise the Industrial Hall, Machinery Hall, Grand Avenue, and Concert Hall.

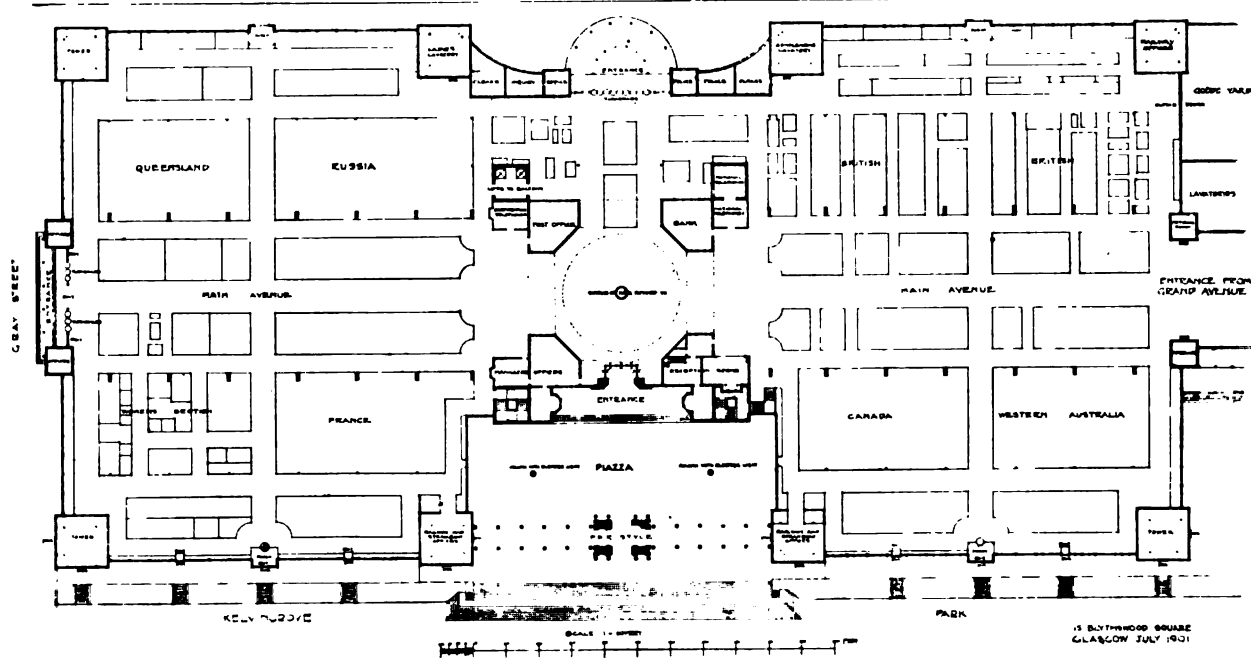
The Industrial Hall is situated on the south bank of the River Kelvin, with its main axis running east and west. It is 700 feet long by 320 feet wide. It has a main central corridor spanned with an elliptical steel roof 100 feet wide running the whole length of the building. The side wings are roofed with wood-trussed roofs running at right angles to the main corridor. From the centre of the building rises the great dome, 80 feet in diameter, rising to a height of 210 feet to the top of the flying figure which crowns its summit. The dome is flanked by four towers 22 feet 6 inches square and 150 feet high. The towers are placed 110 feet apart, and are connected on four sides by walls 90 feet high. These walls are finished at the top with an open arcade forming a promenade balcony 500 feet in circumference and encircling the dome at a height of 75 feet above the ground. Access to this balcony is obtained by means of two electric elevators and two large staircases which are carried up in the towers.

The main or ceremonial entrance is in the centre of the north front facing the River Kelvin. Here the main line of the building has been recessed to form a piazza 188 feet in length and 80 feet wide, in front of which runs a colonnade or peristyle formed of a double row of columns of the Corinthian order. A flight of 15 steps, 182 feet long, in front of the peristyle, leads to the chief promenade of the grounds, which practically runs the entire length of the park. The floor of the piazza is formed of white cement, with a large design in black, carried over the whole area.





MACHINERY SECTION: GROUND PLAN.



INDUSTRIAL SECTION: GROUND PLAN.

Internally the spandrils of the dome are enriched with colossal modelled groups representing the Triumph of Navigation by Mr. Albert H. Hodge, London, and the interior of the dome is decorated in colour by Messrs. Dall and Neave, Glasgow.

The materials used in this building are wood and steel, the outside walls and ornamental work being of fibre plaster. Most of the roof is of corrugated iron, but the roofs of corner towers are covered with red pantiles. The dome and the domical roofs of towers are all covered with fine floorcloth, overlaid with aluminium and lacquered to give the effect of gold.

The Machinery Hall is 500 feet long and 920 feet wide. Like the Industrial Hall, it also has a central corridor 100 feet wide, formed with an elliptical steel roof extending the whole



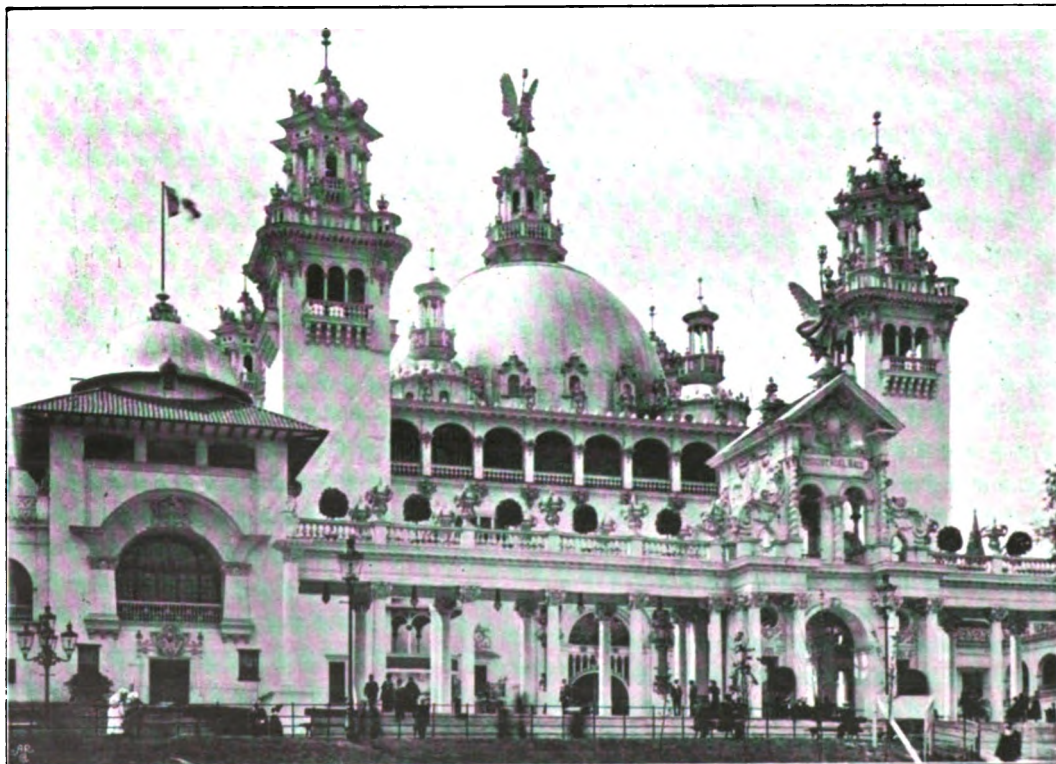
PIAZZA AND PRISTYLE

length of the building. From the steel pillars which support the roof cantilevers are thrown out on either side to form a balcony promenade 15 feet 6 inches wide, which runs along both sides of the main corridor and returns at both ends. The gallery is raised 12 feet above the floor of the hall.

The Grand Avenue is 1,200 feet long, and extends from the west end of the Industrial Hall to the bridge spanning Dumbarton Road, which connects it with the Machinery Hall. It is 75 feet in width, and is spanned with a semicircular roof formed of laminated wood arches. Near the centre of the avenue is a cross corridor connecting this with the main hall of the Art Galleries. The arrangement of the floor levels is such that visitors can pass from the Industrial Hall to the Grand Avenue, and thence by the bridge over Dumbarton Road to the Machinery Hall, pass round the latter, and return without the necessity of using stairs.



GLASGOW EXHIBITION : MAIN OR SOUTH ENTRANCE.



FRONT OF PERISTYLE.

The Concert Hall is a circular building, and accommodates 4,000 persons. It is 140 feet in diameter, and has a gallery and promenade all round (except at the stage) supported on cantilevers. The roof, which is of steel, is in the form of a flat dome, which is plastered on the soffit. Internally the hall is surrounded by a series of semicircular arches over the gallery.

Externally it is surrounded by a corridor 10 feet wide, into which the various doors open.

The other buildings throughout the grounds erected by the Exhibition Executive comprise the Agricultural Building, Indian Theatre, and the various restaurants and kiosks, all of which are constructed of wood with fibrous plaster decorations externally.

The style adopted for the principal buildings is Spanish Renaissance, with a Moorish tendency in certain parts, while in some of the smaller structures a somewhat more fantastic or "showy" treatment has been adopted.

Externally the walls of the more important buildings are coloured white, while the shields and other ornamental work have been brought out in gold. The roofs are coloured a soft red, and the woodwork of doors and windows is a bright green.

The buildings were commenced in April 1899, and the Exhibition was opened on the 2nd of May of this year, so that the period occupied in construction was exactly two years.

The cost of the temporary buildings, exclusive of the Russian and other private pavilions, will amount to between £130,000 and £140,000. The contractors for the whole of the building were Messrs. William Shaw and Son, Glasgow, the contractors



SPANDRIL OF DOME.

for the steel work being the Arrol Bridge and Roof Company, Glasgow. The whole of the fibrous plaster work was executed by Messrs. George Rome and Company, Glasgow. In the designing of the constructional steel work the architect was associated with Mr. C. A. Bonn, of Messrs. Babbie and Bonn, C.E., Glasgow.

The Russian buildings are situated in the east end of the park, and comprise four large pavilions. The buildings were designed by Russian architects, and mostly carried out by Russian tradesmen. They are constructed almost entirely of wood. The style adopted is that which prevailed in Northern Russia about the sixteenth century, and resembles the Norwegian in many respects. There is a feeling of largeness about the designs, and, although somewhat barbaric in their treatment, they are at the same time most picturesque. The

roofs are covered with wood shingles about the size of tiles, and painted in shades of green and red. In the external decoration of these buildings a good deal of stencil-work has been used, the prevailing tones being red, yellow, blue, and black.

The Irish pavilion is a picturesque building with harled walls and thatched roof, designed by Mr. Dean, of Dublin.

The Canadian section, which adjoins the Irish pavilion, was designed by Messrs. Walker and Ramsey. It is Spanish in character, and has plaster walls and corrugated iron roof. There are many other private pavilions throughout the grounds, varied in style and design, one of the most effective being Van Houten's Cocoa House, designed by Mr. A. N. Prentice, London.



9, CONDUIT STREET, LONDON, W., 28th Sept. 1901.

CHRONICLE.

The Glasgow Visit.

The functions connected with the Institute visit to Glasgow next week are as follows:—

The R.I.B.A. Annual Dinner will be held on Thursday 3rd October, at the Windsor Hotel, Glasgow, at 6.30 for 7 P.M.

On Friday the 4th, the Glasgow Institute entertains the visitors to luncheon at the Grosvenor Restaurant, Exhibition Buildings, at one o'clock. From half-past three to five a visit will be paid to the University, on the invitation of Principal Story and the Senate. At half-past seven the Lord Provost and Corporation hold a Reception in honour of the visitors at the City Chambers.

The President of the Royal Scottish Society of Painters in Water-Colours has issued an invitation to members going to Glasgow to visit the Twenty-second Annual Exhibition of the Society, now being held in their galleries.

The Glasgow Art Club, 185 Bath Street, Glasgow, have hospitably notified to the Secretary that they will grant the privileges of their clubhouse to Members of the R.I.B.A. during their stay in Glasgow, on presentation of visiting-card.

The Assassination of President McKinley.

On the occasion of the death of President McKinley a cablegram was sent to Mr. Peabody, President of the American Institute of Architects: "Our profoundest sympathy with the American Institute in national mourning.—President R.I.B.A." To which Mr. Peabody cabled in reply: "Your sympathy and friendliness are deeply appreciated.—President American Institute of Architects." A letter of condolence was also sent by the Secretary R.I.B.A. to the Secretary of the American Institute.

The New Government Offices in Parliament Street.

The objections to the Government's decision to carry out the late Mr. Brydon's designs for the new Public Offices under the supervision of the Office of Works were set out in the extracts from *The Times* correspondence on the subject printed

in the last issue of the JOURNAL [pp. 464-5]. The critics have been replied to and the proposals of the Government defended in a presumably inspired communication to *The Times* of the 3rd September, which states the case for the Government as follows:—

By an extraordinary fatality, the two eminent architects entrusted with the designs of the great public buildings in course of erection in Whitehall died within the space of a few months. Their designs had been completed and had been exhibited for the information of Parliament. They had met with very general approval, the contracts for the foundations had been accepted, and the work was in course of being carried out.

On the death of Mr. Young, the First Commissioner decided to complete the work under the joint supervision of Mr. Clyde Young and of Sir John Taylor. To this no objection was apparently taken.

On the death of Mr. Brydon a precisely similar question arose, and the First Commissioner decided that the work should be carried out by Mr. Henry Tanner, under the supervision of Sir John Taylor. It seems to be assumed that this decision was taken for financial reasons. This is not a fact. The main motive which actuated Mr. Akers-Douglas was regard for the comfort of the great body of public servants who will be called upon hereafter to occupy the building in question.

The chief concern of the public with both the new War Office and the buildings at the corner of Parliament Street is their outward form. This has been decided by the employment of the deceased architects, whose names will always be associated with the buildings in question. The internal arrangement of these offices is a matter of deep concern to the men who will have to spend long and arduous days within their walls.

In former times very little attention was paid to this not unimportant matter. The externally beautiful building which contains the Treasury is one of the most hopelessly unsatisfactory public offices which could be well imagined. Badly-designed rooms, incommensurable passages, inferior ventilation and lighting, and waste of space comprise a conglomeration of every fault, from the point of view of the transaction of public business.

The building erected in Chancery Lane (one of the most beautiful in London) for the Record Office is internally perfect for the purpose for which it was designed by Sir John Taylor. The General Post Office North, designed by Mr. Henry Tanner, is as satisfactory a building for official purposes as could well be constructed. The Admiralty, for the internal planning of which the architects responsible for the building would readily admit their great debt of gratitude to Sir John Taylor, is—from an official point of view—almost without a fault.

It is not surprising that, with these experiences to guide him, Mr. Akers-Douglas should have hesitated to deprive himself of the services of those architects connected with his office whose knowledge of official requirements is unrivalled in the profession. Sir John Taylor's name stands high among living architects. It is true that Mr. Henry Tanner is less well known; but when Sir John Taylor was entrusted with the building of the Record Office he was not well known to the public, but the choice was amply justified. Time will in like manner justify the decision which Mr. Akers-Douglas has taken.

There is a further reason which weighed strongly with the First Commissioner. It has been too readily assumed that an eminent outside architect could be found to carry out Mr. Brydon's fine plan. Inquiries made with some care did not bear out this assumption. Eminent architects are men of strong individuality, deeply committed to their own ideas of art, imbued with their own notions of style, and, as a rule, absorbed by works of their own design, with very little time and less desire to bestow upon

the work of others. It became speedily clear that, if an outside architect was to be employed, it would have to be a man of the second or third rank in his profession—assuming that the plan and elevation designed by Mr. Brydon were to remain unaltered. The First Commissioner not only considered that it was due to the memory of Mr. Brydon that his building should be erected according to his design, but he determined, for the sake of the intrinsic merit of the design itself, that this should be done.

These, then, were the reasons which actuated Mr. Akers-Douglas in recommending to his colleagues that the new building should be carried out under the superintendence of the architects of the Office of Works. Financially it is highly improbable that any saving will be effected. The design has been paid for, and the executors of the late Mr. Brydon have received the money. The remainder of the sum set aside for "commission" will be employed—as it would have been by Mr. Brydon had he lived—in remunerating the subordinates who have to carry out, from day to day, over five or six years, the work of variation and superintendence.

If, when the War Office and the great group of public offices at the corner of Parliament Street are erected, they prove worthy of their magnificent site, the credit will be due to Mr. Young and Mr. Brydon, who designed them; and if they prove satisfactory as official buildings, fulfilling the requirements and adding to the comfort of the public servants who will occupy them, the credit will be due to Mr. Akers-Douglas for bestowing his confidence upon two of his own officers who have not hitherto abused it.

These pleas are dealt with in the following further correspondence. Professor Aitchison writes (*Times*, 11th September):—

I do not think the public who understand the matter will join in your correspondent's plea at Brydon's offices being handed over to the Office of Works, nor think that the character of our public architecture will be improved by it.

Can anyone be surprised that no architect of eminence would undertake to carry out the work on the understanding of keeping exactly to Brydon's sketch? Brydon would certainly not have done so, but would have carefully studied each portion again, so as to bring them and the whole to perfection, while every moulding and detail would have been drawn by his own hand. I do not believe that the architects of England are less patriotic than the Italians of the sixteenth century, for, though the design for St. Peter's was Bramante's, it had to be carried out by others after his death—by B. Peruzzi, by Raffael, Giuliano da San Gallo, Fra Giocondo, Antonio da San Gallo the younger, Michelangelo, Giacomo della Porta, and Vignola, before its final alteration by Carlo Maderno; and Michelangelo made a great point of carrying out Bramante's work in its original spirit. . . .

The bad arrangement of the Treasury, which was built or altered by Soane and refronted by Barry, when lighting and ventilation were in their infancy, is pointed to, and it is insinuated by this that independent architects are incompetent to deal with planning, lighting, and ventilation, and, though every architect would necessarily consult the heads of each department as to the arrangements they require, it is suggested that the Office of Works understand their wants better than they do themselves.

It is, doubtless, convenient to be able to hand over our public buildings to a department, and to have no further trouble till the final fiasco. What the public should consider is whether the finest possible building will result from it. The officers and clerks of the Public Works Department are already overworked, and beyond their ordinary work they have an elaborate building to look after, the War Office, and they are now again asked to give a part of their spare time, which is all they have to give, to the perfecting of another large building, and one

of the most important of our time, and the verdict upon this will not only be given by English, but by French, Italian, German, Austrian, and American architects.

It is too late, I fear, to rescue the War Office, but there is time to rescue Brydon's offices from the clutches of the Office of Works. . . .

Mr. Leonard Stokes writes (*Times*, 17 Sept.):

I fear your correspondent can hardly be any judge of architectural matters at all if he really thinks the Record Office in Chancery Lane "one of the most beautiful (buildings) in London"; far from being so, it is really one of the most childish productions of modern times, externally and internally. If rooms 20 feet high constitute the perfection of comfort when provided for two or three clerks, then perhaps it may be "perfect for the purpose for which it was designed," as stated.

Your correspondent seems to think architecture is all "a matter of taste," but he is quite wrong, for there is good and bad in architecture, as in other things, quite apart from taste; and I repeat that the Record Offices are thoroughly and unmistakably bad, and this opinion I am prepared to back against your correspondent's, whoever he may be, and we can refer the matter to any qualified judge or judges he may like to name.

Your correspondent again shows his want of knowledge when he states that had Brydon lived the rest of his "commission" would have gone in remunerating subordinates. This is too absurd for anything. Had Brydon lived every single detail about the building would have been either drawn by his own hand or under his direction and supervision, and I venture to state that not more than about one-tenth of the remaining "commission" would have gone to subordinates, for he kept but a small staff, preferring to do his own work; and here we have just the difference between a public office, like the Office of Works, and a good private office. In the former subordinates do the work, as pointed out by your correspondent, while in the latter the principal does it himself.

Street himself drew every single detail in the Law Courts, and the details are all good. The building as a whole, perhaps, may not be all it might have been, for this reason, that the Office of Works had control over Street. I have always been told that the Office of Works are responsible for the Courts being on the first floor (the one great mistake in the design), and I know that on Street's original drawings he had provided for heating and ventilating the building; he was, however, told by the Office of Works that they would see to such matters later on, and he was not to provide for anything of the kind; consequently, when the building was almost finished, it had to be fearfully cut about, at great expense, to introduce the Office of Works' "system of heating and ventilating." Those who use the building know the result and blame Street; and Brydon will get the "credit," your correspondent informs us, for the design of the new Government offices, after it has been detailed by a staff of subordinates similar to that which detailed the "beautiful" Record Offices!

A dead man's reputation and memory are dear to his friends, and, as Brydon's friend and executor, I decline to have any such "credit" laid at his door. The Office of Works cannot detail the building so that it will be any credit to Brydon's memory, any more than the officials of "South Kensington" could finish a portrait left, say, two-fifths completed by Rembrandt, for there is individuality in architecture as there is in painting, music, and every other art.

A good deal was at one time made of the fact that Brydon's head draughtsman had been engaged by the Office of Works to help to complete the building as Brydon would have finished it; this young gentleman is now working under a weekly engagement at the Office of Works, and is with others engaged in altering already Brydon's design, which your correspondent assures us it is the

principal desire of the First Commissioner to see carried out as Brydon left it. Your correspondent, however, says nothing about this, and he also repudiates the saving of expense theory, and produces for the first time another—viz. that no really eminent outside architect could be found to finish Brydon's design, and that if an outside architect were employed "it would have to be a man of the second or third rank in his profession." Here, again, I think your correspondent must be quite wrong, and I cannot believe any outside architects were ever approached at all. Even if they have been, and they could not see their way to sink their own individuality, as your correspondent says, I venture to state that it would be far better for the building, its owners, the public, as well as for Brydon's memory, to have it finished by an architect of even second or third rank than to let it fall into the hands of the subordinates named by your correspondent, none of whom, I fancy, is equal even to an outside architect of second or third rank.

When it was decided to build South Kensington Museum, the War Office buildings, and the new Government Offices, the idea was to appoint an outside architect to each, with Sir John Taylor as architectural representative of the Government to keep an eye on them and to look after the "comfort of the occupants," as your correspondent puts it. Out of the three architects appointed Mr. Aston Webb, A.R.A., is the only one left living, and he, with Sir John Taylor, as above explained, is carrying out South Kensington Museum. Mr. William Young, who was appointed to do the War Office, died some months ago, and the Government appointed his son, Mr. Clyde Young (an outside architect), to complete his father's work in conjunction with Sir John Taylor. And now Brydon dies, and the Government for some unknown reason depart from their original idea (upon which they are still acting for the two other buildings), and propose that one Office of Works official, Mr. Henry Tanner, in conjunction with another, Sir John Taylor, should nominally complete the new Government Offices in Parliament Street, but that subordinates should really do so!

The Council of the Royal Institute of British Architects protested against this proposal without effect. Mr. Emerson, the President of the R.I.B.A., has also written to you on the subject, as well as Professor Aitchison, R.A., and your valuable aid has been further given in a leading article, and yet there is no sign of the Office of Works relenting, but instead your apparently inspired correspondent sends to you the communication you print, a communication. I venture to think, most unsatisfactory in every way, and particularly in those points I have ventured to call attention to.

The Times, in a leading article of the same date (17 Sept.), reviews the whole controversy, and vigorously supports the demand for the appointment of an independent architect. It concludes:—

The real question is, Is the country prepared to hand over the expression of its national taste in architecture to the uncovenanted mercies of the Office of Works—a department possibly well equipped for the superintendence of public buildings, but assuredly not adequately organised for the purpose of designing them? If we resolved to have a department for this purpose, we should organise it in quite a different fashion. We should take care that the Bramantes and Michelangelos of our day were to be found inside it and not outside it, . . . and we should probably give such men the permanent assistance of some such professional council as that to which the Government appealed when it originally selected Brydon as architect of the new Public Offices. To such a department we might perhaps safely entrust the expression of the national taste in architecture. To the Office of Works, as at present constituted, we can entrust nothing of the kind. Its whole

conception of a public building appears to be that of a builder, not of an architect. It is not even actuated, we are assured, by a zeal, laudable in itself though deplorable in the particular application, for public economy. It proposes to take a course not less costly than that which commends itself universally to professional and enlightened opinion, and to take it, so far as we can see, out of sheer lack of artistic perception. For this is really all that the argument of its apologist comes to. If you can only get a distinguished architect to make a pretty drawing and leave a few unfinished sketches, all the rest can be done by a draughtsman, a couple of departmental officials, and a competent builder. We can only say that no great public building ever was, or ever can be, produced in this way.

Under the title of "The Office of Works v. Architecture," in the *Saturday Review* of the 21st September, "D. S. M." writes:—

His Majesty's Office of Works took advantage of the approach of the holiday season to do one of the improbably stupid things that unfortunately characterise our Government's dealings with artists, and the protests made have apparently not in the least shaken the official determination to persist in a blunder and serious injustice. I do not know whether it is still too late to hope that Mr. Akers-Douglas and his colleagues will go back on their decision and take the course urged upon them by their critics, with how much reason the readers of the *Saturday Review* will judge when they have heard the facts.

Having detailed the facts, and criticised the pleas put forward for the Government, the writer proceeds:—

The same apologist hints that no first-rate architect would accept the task of carrying out Mr. Brydon's project. It is extremely probable that no architect who knows his business would agree to be tied down to every detail of Mr. Brydon's first sketch. He would claim the same liberty of revision and improvement that Mr. Brydon himself would have claimed when the sketch came to be reduced to detail. What the final result of Mr. Brydon's re-shaping would have been no one can say; the only way of getting its equivalent is to put in Mr. Brydon's place an architect sympathetic with his general ideas in design, who will take up the work where it has been dropped, and give the years of invention and care that are still needed to carry it through worthily. Otherwise we shall have a very important building botched, at some points by a stupid adherence to features of the first project that might be improved, at others by eruptions of comfort and convenience imperfectly adapted to the scheme; and over it all in its detail the mark of the Office. The Government, if their Foreign Secretary died, would not hand over an unfinished treaty to the clerks in the Stationery Office; if their Secretary for War died, they would not entrust an unfinished campaign to the officials of the Commissariat Department, however efficient these might be in their own business; are they so impenetrable to common sense that when the unfinished project is artistic they cannot see the reasonableness of appointing an artist for its direction?

Craftsmen Members of an Allied Society.

The Birmingham Architectural Association are admitting a new class of subscribing members into their ranks under the style of "Associated Craftsmen." Candidates must be persons engaged in the various crafts connected with architectural art. The establishment in the Institute of a class of members to be called "Craftsmen R.I.B.A." was recommended by the Council some years ago, and its adoption was moved by Mr. Aston Webb,

seconded by the late Mr. Brydon, at a Special General Meeting in July 1895. The meeting was in favour of the scheme, but there being some opposition to the details the question was postponed and has never since been revived.

Obituary.

Mr. Robert Isaac Bennett, of the firm of Royle & Bennett, of Manchester, died on the 21st August. Mr. Bennett was elected Fellow of the Institute in 1888, and as President of the Manchester Society of Architects represented that body on the Institute Council during the years 1898-1900. His firm carried out important works in Manchester and neighbourhood, erecting numerous buildings for the local School Board, including the Higher Grade Schools at Cheetham and the School Board Offices in Deansgate. They also designed the block of warehouses and shops at the corner of Mount Street and Lloyd Street, and carried out the recent improvements of the approach into Albert Square, Manchester.

Mr. Herbert Richard Lloyd, of Birmingham and Redditch, who died on the 12th inst., in his fortieth year, from the effects of carbolic acid administered in error, had been an Associate of the Institute since 1887. He was a prominent and very active Member of the Birmingham Architectural Association, of which body he had served successively the offices of Hon. Secretary, Member of Council, and Vice-President. Among his more recent works may be mentioned the restoration, as completed in August 1898, of St. Mary's Church, at Cowes, Isle of Wight; the new Technical Schools at Redditch; and a church and Sunday school for the United Methodists at Mount Pleasant, Redditch, opened twelve months ago. Mr. Lloyd and Mr. Henry T. Hare, as joint architects, prepared the plans and designs for the new Isolation Hospital at Hill Top, Bromsgrove.

At the time of going to press news was received of the death of Mr. John Mackland, of 14 Hart Street, Bloomsbury. Mr. Mackland was elected an Associate in 1889, and Fellow in 1899.

REVIEWS.

COLEMAN'S PRICE-BOOK.

A Price-Book for Architects and Engineers. By T. E. Coleman, F.S.I. [Messrs. E. and F. N. Spon, Ltd.]

This handy little volume—the size and shape of the old Spon and Hurst—is an amplification of the author's original book on Approximate Estimates. To give even an approximate estimate in these days needs, as the author remarks, that the professional man shall be quite up-to-date in his knowledge of the price of both labour and materials. For instance, we are told that in London in 1885 the average cost of ordinary stock brickwork was £11 per rod. In 1900 it was £16 10s., an increase of 50 per cent. In 1900 shops erected by contractors who had erected pre-

cisely similar ones two years before cost 28 per cent. more. The Compensation and Liability Acts account for a considerable portion of this, and there is no doubt that the higher standard of work—especially sanitary work—required is responsible also for some of it. The "labour bill" is almost an unknown quantity now. How often one hears a builder bewail that he never knows what the labour will cost! Not only are the men better paid, but—and there is no good in blinking the fact—they do not, will not, carry out the same quantity of work in the same time as heretofore. Our author, therefore, is probably right in saying that "the cost of building has increased within the last three or four years by 25 to 80 per cent." A useful table is given showing the rates of wages in all the great towns of the British Isles, but these may be entirely useless by the end of the year, so often do they change. It used to be considered an accurate rule to take out the brickwork and multiply by four to get the total cost of the building, and to check the cube price. Our author tells us that it is necessary now to take from one-third to one-half as the cost of brickwork or masonry.

The prices of the various works are given in alphabetical order, each item is numbered, and cross-references are frequent. The arrangement gives some curious contrasts—"Artizans' Dwellings" being immediately followed by "Ash Bins," and "Law Courts" by "Lead Flats," for instance. It is hard to say why, in an English book, on looking up "Lifts, Hydraulic," we should be referred to "Elevators," which is not English. The explanation may be that the imprint shows that the book is published by Spon both in London and New York. But the prices would be almost useless in the latter, and it would be better to stick to "lifts," as is in fact done for "hand lifts" and "lift enclosures."

The book is in two parts—Average Cost, and Actual Cost—and will be found useful, no doubt, by those who do not, as all good architects should, keep their cube-price books carefully entered up. And this not only with the contract price but also with finished cost and cost per bed, per room, per patient, per sitting, &c., where such can be obtained, and are usually taken as a unit for comparison. Our author gives these in every such case, as well as detail prices for nearly all the items one is likely to need, and for many one is, unfortunately, never likely to be called upon to quote. In the list of actual costs the locality is in every case given; but the date, which is more important, is omitted. It is scarcely possible that the cost of such old "Railway Station Roofs" as Charing Cross, Cannon Street, and St. Pancras can be taken as a basis of cost for similar structures to be erected to-day.

In fact the young practitioner needs to be warned that he must not pin his faith to any such book. He may use it, provided he get a check

price from some architect or quantity surveyor who has just had to do with a very similar building. Otherwise there may be trouble when the actual estimates come in. This is no reflection on the author, whose book is a model for arrangement, clearness, and size. C. H. BRODIE.

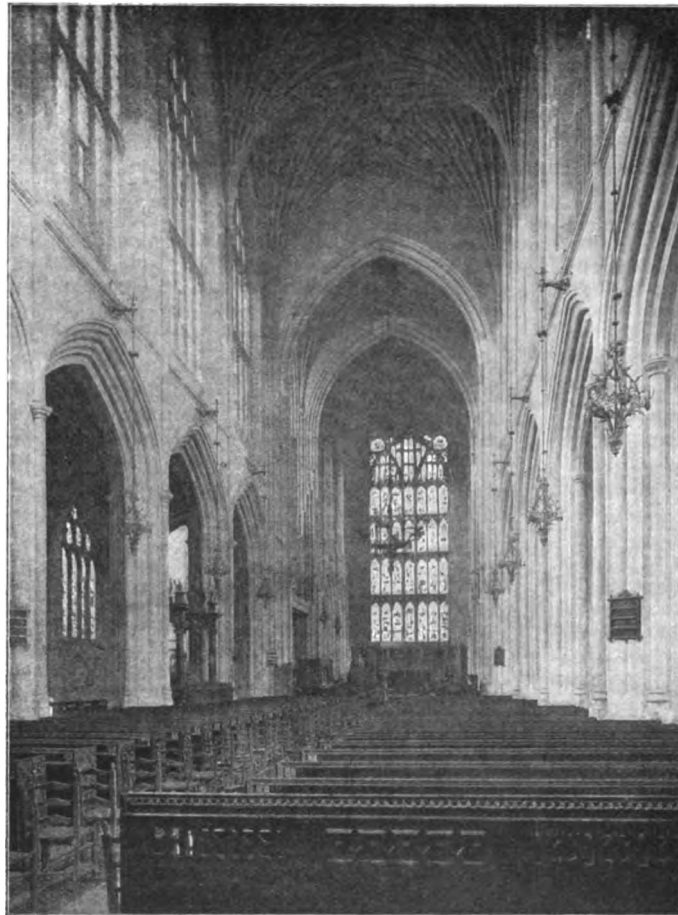
BATH AND MALMESBURY.

"*Bath, Malmesbury, and Bradford-on-Avon.*" By the Rev. Thomas Perkins. *Bell's Cathedral Series.* 80. Lond. 1901. Price 1s. 6d. [Messrs. George Bell & Sons, York Street, Covent Garden, W.C.]

This little book is in all respects quite up to the standard attained by those of the series pre-

ferred to it in his works on architectural subjects—is first taken in hand. The author in dealing with its history strangely enough fails to mention its most notable Abbot, Alphege, who as Archbishop of Canterbury suffered martyrdom at the hands of the Danes at Greenwich in 1012. He was born at Weston, a village north-west of Bath, and is the only person connected with this church who finds a place in the English calendar.

Referring to John de Villula's great cathedral, the author writes (p. 27): "The foundations of the choir of the Norman church, if they exist, are buried below the surface of the open space and roads to the east of the church." The founda-



BATH ABBEY: NAVE (LOOKING EAST).

Photo. T. P.

ceding it. The illustrations are almost entirely from photographs, and merely convey a general impression of the several buildings, which is enough to fulfil the purpose of a book of this class.

Bath "Abbey"—or more correctly "Cathedral," as Professor Freeman pointed out, and as such

tions of the apse were laid bare some years since whilst the roadway above was being excavated, and the City Architect asked the Corporation to allow a record to be made in the pavement at the spot; but permission was not granted, and the apse remains to be "rediscovered," let us hope, by a less utilitarian generation.

"This John pullid down the old Chirch of S. Peter at Bath, and erectid a new, much fairer, and was burrid in the middle of the Presbyteri thereof, whose Image I saw lying there an 9 yere sins, at the which time al the Chirch that he made lay to wast, and was onrofid and wedes grew about this John of Tours Sepulchre."—*Leland*.

This passage, written in 1542, makes it clear that in 1583 the ruins of the eastern part of John's church were standing to the east of the present church, and that in 1542 they had been cleared away. The author tells a good story in connection with the ruinous state of the church at the beginning of the seventeenth century, in which Sir John Harington (not as usually "Harrington") figures. This gentleman is said to have written the following punning rhyme in charcoal on the unfinished walls, in which he alludes to King, Cardinals Adrian di Castello and Wolsey, Clarke and Knight, successively Bishops of Bath and Wells:—

"O Church! I waile thy wofull plight,
Whom King nor Cardinal, Clarke nor Knight,
Have yet restor'd to auncient right."

Cardinal Adrian, according to Browne Willis (*History of Cathedrals*, vol. i. p. 519), vaulted the choir, but this is unlikely, since he was an absentee. His arms appear on the vaulting, which was probably finished during his episcopate, and this would account for their presence there.

Bloxam believes the effigy of a bishop at Bathampton Church in his time built into the east wall was the "Image" mentioned by Leland, and thinks it is probably the earliest sepulchral effigy of an ecclesiastic we have.

The author has failed to draw attention to the narrowness of the transepts occasioned by the oblong plan of the tower, one of the most remarkable features of the building, the ratio of height to width internally being almost exactly 3 to 1, though this is not so apparent since the organ has been placed high up under the north and south tower arches, for it is now impossible to get a good view north and south. He speaks of the vaulting in the south transept as modern. It is shown as existing in Britton's plan published 1st January 1816, also in the plan published 1st April 1817 with Storer's *Cathedrals of Great Britain*, vol. i.

Coming to the monuments, it should have been mentioned that Bishop Montague's is one of the two examples we possess where the bishops are represented wearing the mantle and badge of the Order of the Garter over their episcopal vestments, the other being that of Bishop Andrewes in St. Saviour's, Southwark. Then on Lady Waller's tomb Waller reclines, not "clad in mail," but, as one would expect, in the plate armour of the seventeenth century; the lady lies with feet towards the west, and the children do not kneel, but are seated in arm-chairs.

Instead of giving a long description of the

modern stained-glass windows, such an interesting point as the tablet over "Beau" Nash's grave might have been noticed, and the fine epitaph by Garrick on Quin the actor quoted with profit to the reader, and it should have been pointed out that the great east window and a few others contain some of the best modern stained-glass to be found anywhere.

Mr. Perkins, like most amateurs, is unable to distinguish between good and bad restoration. The restoration of the west front of Bath Cathedral has been undertaken in a most conservative spirit, Mr. T. G. Jackson, R.A., being the architect, and Mr. Frampton, A.R.A., the sculptor of the few new statues either filling an erstwhile empty niche, or taking the place of mouldering lumps of stone which might be anything apart from the clue given by their position. The author's prophecy as to its "spotty appearance" "for many years to come," has proved itself untrue already; in fact, from the ground, the restored portions of the parapet are quite indistinguishable from the old. A Rutland stone has been used for the new work, but it is so like Bath stone in structure that it is doubtful whether future generations will be able to distinguish the new from the old by means of this. The remark about the late Mr. Brydon's work at the Roman Baths, on page 4, is quite out of place in this book. It would have been far better had the author contented himself with pointing out the incongruity of those monstrous pinnacles erected in 1828 on the tower and east end; their removal would enormously improve the external appearance of the church, and, if funds permitted, their places could be taken by light open ones such as appear on some of the turrets in the water-colour sketch made in 1777 by Thomas Malton, jun., now in the William Smith Bequest, South Kensington Museum (see view of east end, p. 2).

Mr. Perkins relies on the illustrations alone to convey to the reader some idea of the glorious fan vaulting; the unusually graceful form of the inverted conoids is obtained through the line of their junction with the wall nearly following the heads of the clerestory windows, which enclose an equilateral triangle, a very unusual form of arch at so late a date. This will be more clearly understood by comparing the view of the exterior of the south transept (p. 10) with that of the nave looking east (p. 16), which, thanks to a remarkably wide angle lens, shows more of the vaulting than usual. Looking at the latter view one can appreciate the author's remarks concerning the removal of the screen on which the organ stood from the two western piers of the tower; it is comparatively modern, and is placed at the west end of the nave (see frontispiece).

It is a pity the author does not give a view of the south side of Prior Bird's Chantry Chapel instead of the north, because much of the north

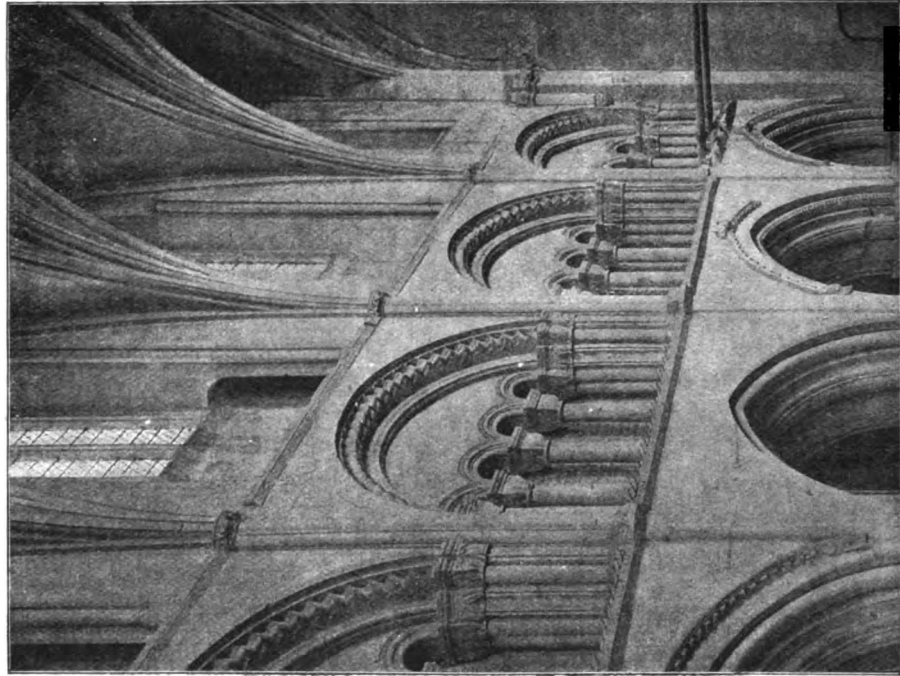


Photo.—J. J.
MALMESBURY ABBEY CHURCH: TRIFORIUM AND CLERESTORY (NORTH SIDE).

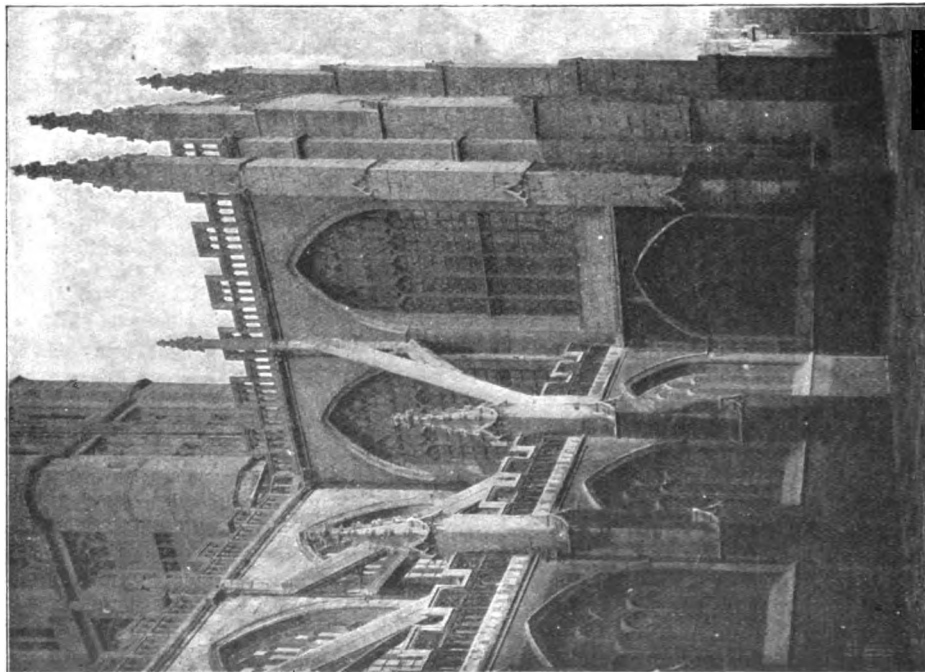


Photo.—T.P.
MALMESBURY ABBEY CHURCH: THE SOUTH SIDE (FROM THE PORCH ROOF).

side is new work, the old having been cut away to make room for a "clumsy, misshapen wooden seat called the Bishop's Throne" (Warner's *History of Bath*). This throne was in all probability turned out of the church at the same time as the magnificent seventeenth-century wrought-iron altar rails, which may still be seen used as a verandah on a house in Lansdown Place West. Besides the south side, owing to the breaks occasioned by the octagonal buttresses, has a much richer appearance.

The view of the west front was taken a good many years ago, before the removal of the shops on the south side of the churchyard, and is spoilt by an electric light post obscuring part of the building; in fact, it cannot be said to do justice to this fine conception.

A glance at Britton's and Storer's works, Natté's *Views of Bath* (1806), &c., shows how many interesting objects belonging to this church disappeared during the various "restorations" of the last century, and it would be well if they could again find a home here, more particularly the splendid railing mentioned above.

Malmesbury Abbey has been dealt with more thoroughly. The author is probably right in believing the date of the nave to be subsequent to the death of Roger, Bishop of Sarum. In fact, the passage from William of Malmesbury's *De Gestis Regum* (lib. v.), on which opponents of this view base their argument, seems rather to confirm Mr. Perkins's opinion than otherwise by referring to "buildings" at Salisbury, Malmesbury, and other places, and then singling out the "church" at Salisbury afterwards. There is no doubt that some of the earlier writers on mediæval architecture believed many buildings to be older than they really are. As an example: New Shoreham Church, of which no records exist, was considered by Willson to have been erected about 1220, but Britton believed it to be fifty or eighty years earlier. If we take the latter, the year would be 1140, or only five years later than the commencement of Malmesbury, according to Freeman, which, to anyone knowing the two churches, would seem very improbable, unless New Shoreham owes its fuller development to its position opposite the French coast; for it can hardly be denied that France was ahead of us in evolving Gothic architecture, such churches as S. Nicolas, Blois (begun 1138), being far in advance of any buildings we possess of the same date.

Mr. Perkins, in noting the restoration works now in progress, is good enough to write, "There is some hope, however, that at Malmesbury less mischief than usual will be done." He refers at some length to a report prepared jointly by the Society of Antiquaries and the Society for the Protection of Ancient Buildings. Mr. Perkins does not see that it entirely fails in its object. The only possible excuse for restoring the three—

not two—ruined bays of the nave would be a congregation too large to be accommodated in the portion already available. This consideration should govern everything in the case of a church; but if the "admirable suggestions" contained in this report were carried out, the restored bays would be of no practical use in this direction. One naturally wonders where the proposed entrance in the new west wall of the nave is to be, "without interfering in any way with the remains of the original doorway."

Of the present west window the author writes on page 57, "The tracery . . . is modern," and on page 79, "Its tracery . . . a modern restoration." Which does he mean? As a matter of fact it was designed by the late Mr. H. E. Goodridge of Bath, in 1821, who was also responsible for the modern organ gallery; and, notwithstanding the nineteenth-century character of the mouldings and cusping, it is obviously the work of an artist. Nevertheless, it is difficult to understand on purely antiquarian grounds why this should be retained and the organ gallery rejected. Let us hope it is because of a desire to see the "Survival of the Fittest." The jambs of the window are shown as new on the contemporary working drawings; but appearances and the view in the vestry lend weight to the author's assumption that the window, apart from the tracery, is old.

On page 78 we read:

Wherever new work is added, as in the case of a pillar which was built to take the place of one that had fallen, the mouldings are left perfectly plain, so that for all succeeding time a distinction may be seen between the old and the modern work. This principle, however, has not been adopted in the new stonework introduced into the tracery of the clerestory windows.

"New work was added" when the western part of the nave was built at Westminster, and the whole is symmetrical; yet nobody with the most elementary knowledge of English architecture confounds the work of the thirteenth century with that of the fourteenth and fifteenth centuries; and the principle adopted is not the one commended by the author. The fact is, the last sentence quoted tells the knell of this principle.

On pages 54, 78, and 92 passing reference is made to the Decorated window inserted in a bay of the north aisle, and a sketch-plan of the vaulting is given; but with neither views nor section to illustrate the very meagre description it is not possible to form any idea of this singular feature. A section through the aisle and window is essential to make it quite clear. The unusual character of this bay is caused by the top of the window-sill being fifteen inches above the springing of the aisle vault.

Now that the pinnacles have been raised to their original height the low, modern queen-post roof spanning the nave looks more out of place than ever. If this could be raised to the same

pitch as the aisle roofs and hung with stone tiles there is no doubt it would add greatly to the dignity of the building.

Surely the character of the ground (page 77) cannot be the reason for erecting the cloisters and domestic buildings on the north side of the church. The ground is flat on the south side, but on the north is only level with the church for 125 feet from its walls, and the lower part of the abbey house, the only portion of the domestic buildings remaining, is half-buried in the face of the escarpment and considerably below the level of the church.

It must be gratifying to those who have known this interesting church in the past to see a shaking amongst the dry bones. Not so very long ago Malmesbury Abbey seemed to have been entirely forgotten, except, perhaps, for a short time on

Sundays. Not the least important improvement, so far as architects are concerned, is that sketching is made possible by merely applying to the vergers.

The beautiful bench-end hanging up in the lumber-room is not mentioned. Its many fellows were burnt during the lifetime of the present vergers' father. The writer knows of another, but it is not at Malmesbury.

Of St. Lawrence's Church, Bradford-on-Avon, the plan (page 114) should be noted with care, for, although of so early a date, it is that of the English parish church as opposed to the basilican type. Here, again, no scale is given. Professor Bonney thinks that the angels above the chancel arch, though pre-Norman, are later in date than the church. They certainly closely resemble those in the porch at Malmesbury, and are probably of the same date.

E. M. HICK.



THE CHURCHES OF BRADFORD-ON-AVON FROM THE NORTH-EAST.

Photo.—T. P.



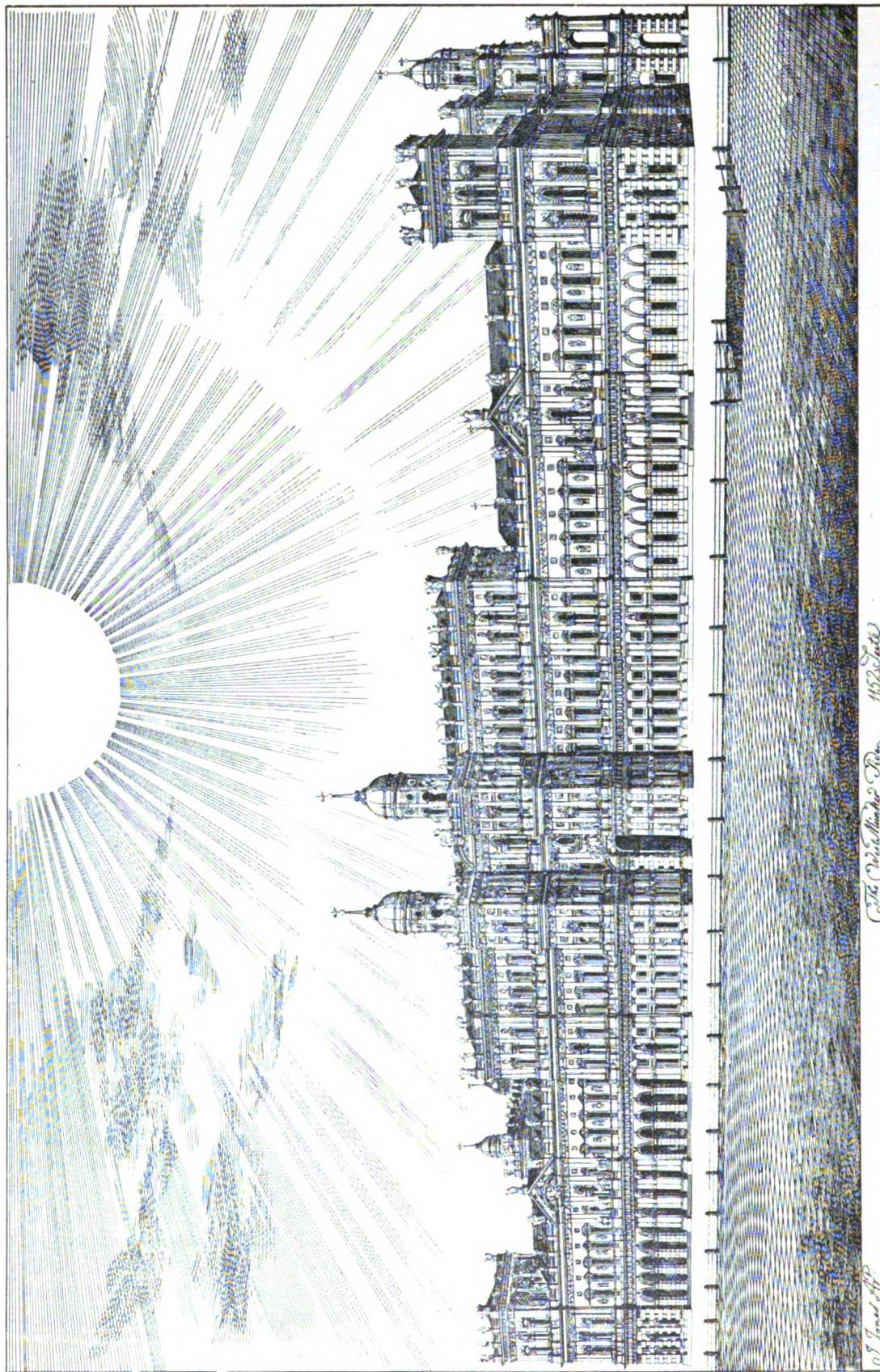
INIGO JONES.

Some Architectural Works of Inigo Jones. A series of measured drawings and other illustrations, together with descriptive notes, a biographical sketch, and list of his authentic works. By H. Inigo Triggs and Henry Tanner, jun., Associates R.I.B.A. Fo. Lond. 1901. [B. T. Batsford, 94 High Holborn, W.C.]

THIS is a valuable and interesting work, which only awakens a regret that it represents but a fragment merely of the zeal that might well be attracted to the task of setting in its true light the architectural genius of Inigo Jones. It is impossible, in fact, to regard the present book as more than the contribution of some carefully measured drawings of one or two of the great architect's works. In the plates of Rainham we have the best that the authors have to give us, and excellent of its kind it is. Much remains to be added, by further study, and by accurate and scientific measuring, to the accumulation of material, on which alone a complete analysis of the work of the "famous Inigo Jones" can be based and a worthy biography built up.

In this particular book a dual tendency may be detected—first, that of providing some plates of good work for modern use; and secondly, that of throwing some additional light on Jones's career. We are bound to state that the authors have succeeded very much better in the former than in the latter aim. This arises largely from their uncritical acceptance of the old traditions, for which they have not the excuse of alleging either fresh facts, or new arguments, in their favour. The "painful" student, in fact, has good ground for complaint, for where his mind had been set at rest, by the ease and assurance of the handling of the problems of Jones's career to be found in Mr. Reginald Blomfield's *History of the English Renaissance*, he will now, on reading this more recent book, feel himself once more thrown back into a chaos of doubt. Should the student attempt to collate the two accounts he will be confused, and will receive the impression of the same facts differently arranged; but while Mr. Blomfield has definite views, our authors seem hazy and uncertain, even in essential matters.

Take as a crucial instance the question of the Gothic and semi-Gothic early work attributed by tradition to Inigo Jones. Mr. Blomfield (page 99) says: "Walpole's speculation, that to the period between his first and second journeys to Italy are to be assigned 'those buildings which are less pure and border too much upon that bastard style which one calls King James's Gothic,' is not supported by any evidence whatever. The earliest signed architectural design by Inigo Jones in existence is dated 1616, and there are drawings in the Worcester Library dated 1617 for certain works in the Star Chamber; and the conclusion, by all the evidence at present discovered, is that he did not settle down to the practice of architecture as his one absorbing art till after his return from his second visit to Italy" (middle 1613 to autumn 1614). Messrs. Triggs and Tanner, however, without any challenge of this



The Westminster Review 1852

ROYAL PALACE WHITEHALL INIGO JONES ARCHITECT ORIGINAL PERSPECTIVE SUBMITTED TO THE KING, NOW THE PROPERTY OF H.M. THE QUEEN

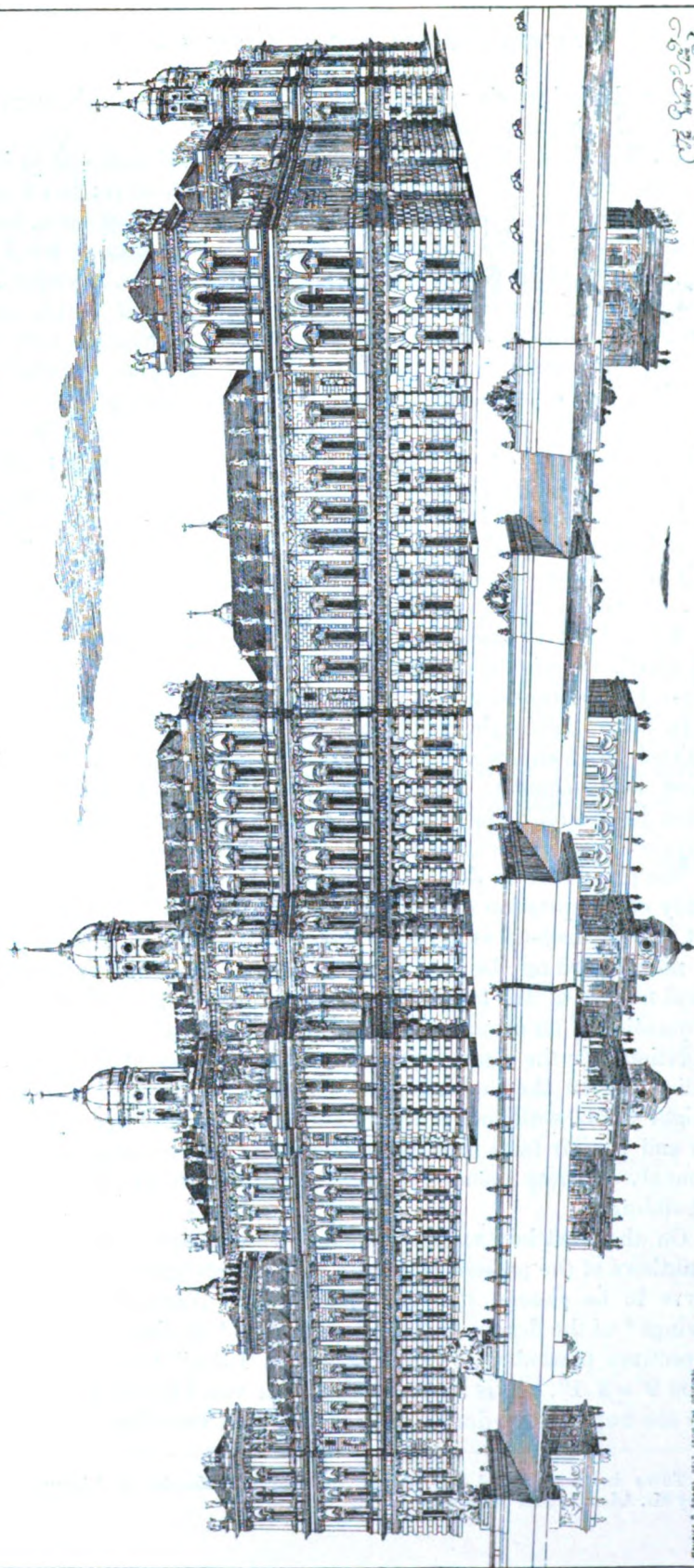
Moniteur B. Adams, del., from the original.

ROYAL PALACE WHITEHALL

DESIGNED BY INIGO JONES

ORIGINAL PERSPECTIVE SUBMITTED TO THE KING

& NOW THE PROPERTY OF HER MAJESTY THE QUEEN



Maurice B. Adams, del., from the original.

definite and distinct view, give us the old traditions afresh, regarding Chilham Castle, for instance, with especial favour as a probable work.

Mr. Blomfield's view of Inigo Jones is a consistent one in itself, and conveys a definite idea of the character of the man, as he has understood it; but there is, in particular, at least one weak point which our authors might well have dwelt upon, had they decided to definitely challenge his view, and that arises from the authorship of the Lincoln's Inn Fields Chapel being, in spite of its Gothic character, accepted by Mr. Blomfield. Apparently the evidence is too strong in regard to this particular work, but if that be accepted it must materially influence our ideas of the probability of Jones's connection with the other Gothic, and semi-classical, works traditionally attributed to him. The case for Chilham Castle would appear, to the writer, to rest upon the ingenuity of the plan, as there is nothing specially distinctive of Inigo Jones in the elevations, though the authors appear to rely on the character of the detail of the entrance doorway, without, however, entering on a really comparative study of the same, from the basis of examples unquestionably accepted as authentic.

A great difficulty in dealing with the history and works of Inigo Jones has been that the older writers on the subject have given us not so much the man himself and what he did, as an heroic abstraction too often serving as a mere peg for the display of the commentators' own ideas. To this end the great architect's designs have been falsified to an extraordinary extent, even so far back as immediately after his death, for his pupil, Webb, seems to have had a most elastic conscience in the matter of his master's works, while Kent's book, far too often referred to as authoritative, is merely an eighteenth-century version of Inigo Jones's style.

In other hands the architect has suffered from critical idolatry, and has not been permitted his own, owing to some real or fancied failure to maintain the level of his own highest achievements. Inigos, however, are not always in real life building Banqueting Houses, just as all Palladio's executed works cannot be squared with his own matured precepts. It requires some candour to deal with the offshoots of a great man's fancy.

The great need in dealing with the question of the authenticity of Inigo Jones's works is a study of the question on modern scientific lines by the collection of facts, and by the treatment of measured-up examples on comparative lines. There is a slight instance in this book—a note regarding the difference in certain drawings of Wilton, wherein steps up to the central feature of the façade are shown, which same do not actually exist, that, in so far as any question of an alteration is concerned, it is a fact that the spade gives no evidence of any foundations for the same. Every student, who has attentively measured and studied an old building, knows the amount of unsuspected history that such a technical study will reveal. Straight joints, settlements, changes of material, or differences of workmanship and details—such and similar facts must be recognised as outweighing the most plausible theories, based commonly on those casual references of old writers which bulk so largely in the histories of old buildings.

On the most important question of the history of the design for the Whitehall Palace the authors of the present book give us no fresh light, although there are certain points that deserve to be cleared up. In the *Building News* of 19th December 1884 appeared two drawings* of the design, therein described as “by the Special Permission of Her Majesty, the perspectives presented to King James in 1618,” from the Library at Windsor, drawn on vellum 2' x 3' 1". It is further claimed, in the letterpress that accompanied the plates, that these are unpublished drawings, excepting that two views, now very scarce, engraved on copper

* These drawings, copied from the originals by Mr. Maurice B. Adams, are here reproduced to a diminished scale by Mr. Adams's kind permission.

by T. M. Muller and A. Benoist, appeared in 1749. It is obvious that if these drawings are authentic and are correctly described, they are the best evidence we have on the subject of this great scheme. In dealing with the history of the design for the Palace the authors fail to grasp the significance of the fact that the fragment erected has a basement to the lowest order, whereas in the drawings usually illustrated the orders start at the level of the ground. The hashed-up version of the Whitehall design, given by Colin Campbell in *Vitruvius Britannicus*, is the only one the writer knows in which this awkward fact of a basement, twelve feet in height, is grappled with, and the way in which it is there met is quite enough to discredit those designs, as works of Inigo Jones.

To some architects all this may seem of no account, but the study of the development of a great architect is much more than a merely academic question. Should it be decided, for instance, that all the early works hitherto attributed to Inigo Jones are not his, we are confronted with the problem of the apparently sudden birth, in 1619, of the great classic design of Whitehall, and Mr. Blomfield's comment on this feat (page 109 of the *History of Renaissance Architecture*) will be found to be much to the point. To arrive at the true facts in regard to the early work of Inigo Jones, and to clear up the history of the Whitehall design, is to throw some light upon the growth and development of a great mind in architecture.

If we might make a suggestion to the authors of this work it would be to continue their study, and to aim at illustrating both the recognised, and the disputed, works of Inigo Jones, on the lines of the Rainham and Whitehall drawings in the present work, but with the addition of short technical notes of all the facts they can collect in each case. They might then very well leave the disputed points alone, pending the collection of adequate material on which a final judgment can be based. In the absence of such complete illustration, scholars, working in libraries, with little or no acquaintance with the buildings in dispute, are little likely to further the settlement of the question by a mere collation of literary references.

ARTHUR T. BOLTON.



9, CONDUIT STREET, LONDON, W., 12th Oct. 1901.

CHRONICLE.

The Visit to Glasgow and Annual Dinner.

The visit to Glasgow will long be remembered as one of the most interesting episodes in the history of the Institute. On other occasions when the Institute as a body has met in a centre out of London, it has done so in the character of host. At Glasgow, it was host for one evening only, at the Annual Dinner; for the rest of the time it was an honoured guest. The Lord Provost and Corporation of the City gave the Royal Institute public and formal welcome at the City Chambers, when a reception was held in its honour. The Glasgow Institute of Architects entertained members and their friends at luncheon. The Senate of the University invited the Royal Institute to visit their buildings. The Glasgow Art Club, the Imperial Union Club, and the Royal Water Colour Society generously threw open their doors. On all sides it was made obvious that the visit was one of public importance, and that the Royal Institute as a body was receiving every mark of courteous welcome.

Apart from the formal side of the reception of the Royal Institute in Glasgow, the visit will be memorable in other ways. The International Exhibition, with Mr. James Miller's picturesque buildings, its pavilions and tea-houses, its thousands of exhibits, and its magnificent collection of pictures and other works of art, formed a unique background, and supplied, as it were, a particular atmosphere. It lent a charm of colour and brightness to the visit which unfortunate weather could not destroy. The stay of members was rendered further enjoyable by very warm social hospitality. It can hardly be doubted that it is in accordance with the wish of members who were present to express in the JOURNAL their cordial thanks in particular to the Glasgow Art Club for the two pleasant evenings spent there under the chairmanship of the President, Mr. J. E. Christie.

On the part of the Institute, it was gratifying to the Council to see how large was the response to the notices of the visit sent to members. Besides a large number of London members,

representatives were present from all parts of the United Kingdom, notably from Dublin, Manchester, Newcastle, Sunderland, Birmingham, Leicester, York, Edinburgh, Aberdeen, and Dundee, including the Presidents of several of the Allied Societies.

The Annual Dinner took place at the Windsor Hotel on Thursday, the 3rd October. The attendance was 190, so that with the exception of the one last year in London, when the Duke of Cambridge was present, this dinner was the largest that has been held by the Institute. Much disappointment was felt at the inability to attend of Lord Rosebery, who some time previously had sent a provisional acceptance of the Council's invitation. The Lord Provost of Glasgow having gone for the sake of his health to Egypt, his place was taken by Bailie Cleland, the senior magistrate, who sat on the President's right hand. Grace was said by the Very Rev. Principal Story, D.D.

The following is a list of the company present:—

Mr. E. J. Milner Allen [A.]; Bailie W. Fleming Anderson; Councillor Robert Anderson; Mr. R. S. Balfour [A.]; Mr. John Ballantyne; Mr. David Barclay [F.]; Mr. Harry Barnes [A.]; Mr. Charles E. Barry [A.]; Mr. Frederick Batchelor [F.]; Mr. Sydney B. Beale [A.]; Mr. John Belcher, A.R.A. [V.P.]; Mr. Hippolyte J. Blanc, R.S.A. [F.]; Mr. Edward Boardman [F.]; Mr. E. T. Boardman [F.]; Mr. W. J. Boston; Mr. James Brand; Mr. Frank J. Brewer [F.]; Mr. Parker Brewis; Mr. James B. Broadbent [A.]; Mr. Horatio K. Bromhead [A.]; Mr. G. Brumell [A.]; Mr. Donald Bruce; Mr. R. A. Bryden [F.]; Mr. A. Burnell Burnell [F.]; Mr. John James Burnet, A.R.S.A. [F.], President of the Glasgow Institute; Mr. Rhodes Calvert [F.]; Mr. J. A. Campbell; Mr. T. Martin Cappon [F.]; Mr. F. J. Carless; Mr. Frank Caws [F.], President of the Northern A. A.; Mr. Caws, jun.; Mr. C. H. Channon [F.], President of the York Society; Mr. James E. Christie, President of the Glasgow Art Club; Bailie Cleland; Mr. Arthur Clyne [F.], President of the Aberdeen Society; Mr. Thomas E. Colclutt [V.P.]; Mr. W. Tait Conner [A.]; Mr. Thomas Cooper [A.]; Mr. W. R. Copland, Chairman of the Glasgow Technical College; Mr. W. Cowie [A.]; Mr. J. D. Crace [H.A.]; Mr. Alexander Cross, M.P.; Mr. Alexander Cullen [F.]; Mr. Thomas W. Cutler [F.]; Mr. John Dansken; Mr. Alfred Darbyshire, F.S.A. [F.], President of the Manchester Society; Mr. Campbell Douglas [F.]; Sir Thomas Drew, P.R.H.A. [F.], President of the Royal Institute of Architects of Ireland; Mr. J. W. Dyson; Mr. John Eaglesham [A.]; Mr. John Ely [F.]; Mr. William Emerson [President]; Mr. W. Ernest Emerson [A.]; Mr. Charles S. Errington [A.]; Mr. J. Graham Fairley [F.]; Mr. John Fairweather [A.]; Mr. W. M. Fawcett, F.S.A. [F.]; Mr. T. Phillips Figgis [F.]; Dr. James Finlayson, President of the Faculty of Physicians and Surgeons; Mr. James Fleming, President of the Glasgow School of Art; Mr. William Flockhart [F.]; Mr. George Frampton, A.R.A. [H.A.]; Mr. William Fraser [A.]; Mr. Theodore Erny; Mr. George Galloway; Mr. John B. Gass [F.]; Mr. Ernest George [F.]; Mr. William Glover [F.]; Professor C. Gourlay [A.]; Mr. Robert Gourlay, Dean of Guild; Mr. Alexander Graham, F.S.A., *Hon. Secretary*; Mr. Walter Graves [F.]; Mr. Arthur Green [F.]; Mr. Leslie W. Green [A.]; Mr. Henry Grieves [A.]; Mr. T. C. Grimble [A.]; Mr. George Gunn [A.]; Mr. James Guthrie, R.S.A.; Mr. Albert L. Guy [A.]; Mr. Edwin T. Hall [F.]; Mr. Henry

T. Hare [F.]; Mr. Shirley Harrison [A.]; Mr. Stockdale Harrison [F.]; Mr. Christopher Harston [F.]; Mr. F. R. N. Haswell [F.]; Mr. E. A. B. Hay; Mr. Robert Hay; Mr. William Henman [F.]; Mr. E. Hewitt [F.]; Mr. Arthur Hill [F.]; Mr. George S. Hill [A.]; Mr. Francis U. Holme [F.]; Mr. John Honeyman, R.S.A.; Mr. W. B. Hopkins [A.]; Mr. Jesse Horsfall [F.]; Mr. John Hutchinson [F.]; Mr. Herbert G. Ibberson [F.]; Mr. R. Stevenson Jones; Mr. W. Kelly; Mr. John Keppie; Mr. Henry F. Kerr [A.], President of the Edinburgh A. A.; Mr. William Kerr; Bailie King; Mr. Wm. Leiper, R.S.A. [F.]; Mr. R. T. Leitch; Mr. James Lindsay [A.]; Mr. James Lochhead [A.]; Mr. W. J. Locke, *Secretary*; Mr. A. B. McDonald; Mr. Alex. McGibbon [A.]; Mr. W. F. McGibbon; Mr. J. C. McKellar; Mr. W. MacKinlay; Mr. Charles R. Mackintosh; Dr. Donald Mackintosh; Bailie William MacLay; Mr. C. J. MacLean, Secretary Glasgow Institute of Architects; Mr. N. MacWhannell; Sir James Marwick, LL.D., Town Clerk of Glasgow; Thomas P. Marwick [A.]; Mr. Thomas Mason; Mr. W. L. Mason [F.]; Mr. J. Douglass Mathews [F.]; Mr. S. Mavor; Mr. Charles G. Maylard [A.]; Mr. James Miller; Mr. Arthur H. Mills [A.]; Mr. W. J. Milwain; Mr. J. M. Monro; Mr. James A. Morris [F.]; Mr. E. W. Mountford [F.]; Mr. John Muirhead, President of the Institute of Measures; Mr. Albert E. Murray, A.R.H.A. [F.]; Mr. Francis Newbery; Mr. David Nicholson; Mr. J. Coulson Nicol [A.]; Mr. D. R. Niven; Mr. Geo. Dale Oliver [F.]; Mr. Leslie Ower [F.]; Mr. R. W. Owen [A.]; Mr. Alexander N. Paterson [A.]; Mr. Robert G. Paterson; Mr. J. Howard Pentland, R.H.A. [F.]; Mr. A. Petrie; Mr. S. Perkins Pick [F.], President of the Leicester Society; Mr. William A. Pite [F.]; Col. W. H. Place; Mr. Arthur B. Plummer [F.]; Mr. R. B. Pratt [A.]; Mr. W. Reynolds-Stephens; Mr. Andrew Robertson [A.]; Mr. John Rogerson [A.]; Mr. Alexander Ross, LL.D. [F.]; Mr. W. Forrest Salmon [F.]; Mr. James Salmon; Mr. H. D. Searles Wood [F.]; Bailie Shearer; Mr. George Sherrin [F.]; Mr. George Sinclair [A.]; Mr. John Slater [F.P.]; Mr. Albert W. Smith [F.]; Mr. D. Forbes Smith [A.]; Mr. P. Gordon Smith [F.]; Professor G. Adam Smith, D.D.; Mr. J. J. Stevenson, F.S.A. [F.]; Mr. Herbert F. Stockdale; Mr. Leonard Stokes [F.]; Mr. J. Herbert Stones [F.]; The Very Rev. Principal Story, D.D., LL.D.; Mr. A. Sykes [A.]; Mr. J. M. Taylor, LL.D., Dean of Faculty of Procurators; Mr. Howard H. Thomson [A.]; Mr. A. Hessel Tiltman [F.]; Mr. Silvanus Trevall [F.]; Mr. Jasper Wager [A.]; Mr. T. Lennox Watson [F.]; Mr. Charles E. Whitelaw, President of the Glasgow A. A.; Mr. Herbert H. Wigglesworth [F.]; Mr. James A. Williamson [A.]; Mr. John Wilson, M.P.; Mr. J. B. Wilson [A.]; Mr. Reuben Winder; Mr. Harry V. Wolstenholme [F.]; Mr. Clyde Young [A.]; Mr. G. P. K. Young [A.]; Mr. Robert Young; Mr. Thomas Young.

The following is a report of the speeches in connection with the various toasts:—

THE PRESIDENT proposed the toast of "The King." He said that for the first time in the history of the Institute the first toast of the evening had to undergo a change. His Majesty, shortly after the death of Queen Victoria, at the request of the Institute, very graciously consented to continue as King the patronage he had extended to the Institute as Prince of Wales, and also promised to continue the presentation of their annual Gold Medal. For this they were greatly indebted to His Majesty, for there was no art that tells in history of the greatness or the aspirations of a country better than the work of the architects. Architecture could be greatly influenced by royalty,

by the interest which a monarch took in their art, and the King had always shown considerable interest in the arts of the country. He believed the art of architecture, the mother of all the arts, would be greatly influenced during the reign of King Edward.

The toast was duly honoured, as was also that of "Queen Alexandra, the Duke and Duchess of Cornwall and York, and the other members of the Royal Family," likewise given by the President.

MR. JOHN BELCHER, A.R.A., *Vice-President*, gave the toast of "The Houses of Parliament." Educational matters and scientific questions, he said, were not neglected by the Houses of Parliament, but the consideration of the art of architecture was apt to be regarded by them as not so much a necessity as a luxury, which an economical Government did its best to avoid. What was to be learnt from Glasgow as to that? The answer was: The Exhibition buildings, which had conduced so much to the financial success of the Exhibition. Then there were the Municipal and other buildings. This great city, given over to work and commercial interests, had not forgotten art, for it was clever enough to know that art paid, as well as gave pleasure. Another pleasing effect to be observed in Glasgow was that the people loved their work and took a pride in it, and it was to this that art enabled them to give expression in their buildings. It was this feeling in Glasgow which they wanted the Houses of Parliament to have. As was well known, new Public Offices were about to be put up upon magnificent sites, and it seemed to be the opportunity of the century to beautify the very centre of Imperial government, and to express by the buildings something of the dignity and importance of the matters carried on there. In deference to public opinion, he believed, two able architects were selected to make designs for the buildings, but, as every one deplored, those gentlemen did not live to carry out their designs, for the carrying out of the design would have been the most important part of their work, and he was convinced that their great experience and knowledge would have enabled them to carry out their work with success. It was now proposed to put the matter into the hands of the Office of Works. Now, in going to war Parliament would appoint the best generals they could to carry it out, and should one be recalled or killed, his place would be immediately taken by another general; and he believed that was the procedure in other Departments. Then why not in the case of public buildings? How many great architects were employed before St. Peter's at Rome was completed? If the history of a nation were read in fine architecture, then these buildings would represent to posterity the indifference and apathy of all concerned. He did not wish to find fault entirely with Parliament in this matter, for Parliament only represented the general apathy.

In proposing the toast, and in coupling with it the name of Mr. Alexander Cross, he expressed the hope that that gentleman would use his influence to see what could be done to get Parliament to treat the art of architecture with greater respect and consideration.

Mr. Cross, M.P., in the course of his reply, said, in regard to the duties of Parliament towards the architecture of the country, he believed that Parliament had to some extent risen to the occasion. Nowadays we did not destroy our old monuments, and we did not make our old castles and other old buildings quarries for material for building farmhouses; and he thought the same spirit would enable them to rise to the occasion in the erection of public buildings. As to the two public buildings in question, although it had been announced as the intention of the Government to entrust the carrying out of the detail of one of those buildings to the Office of Works, the other building, the War Office, was entrusted to the son of the deceased architect, and in his (the speaker's) opinion no better appointment could have been made. As to the other building, should there be any occasion, or should the Institute raise the question of a better arrangement being made for carrying out Mr. Brydon's design than the one proposed by the Government, he did not think that any considerations of economy would be likely to interfere with the realisation of a better arrangement. He had been much struck at the improvement in the architecture of London; and in contrasting the buildings erected twenty-five years ago with those erected now, especially in some of the suburbs, he had been much impressed by the enormous development which had taken place. He had visited foreign cities and many parts of Europe, and he doubted whether in any other city they would see finer modern examples of architecture than were to be seen in the new parts of London.

Mr. JOHN SLATER, B.A., *Vice-President*, then proposed the toast of "The Corporation of Glasgow." The history of the country, so far as regards its peaceful reform and progress at home, was written in the archives of the municipality of the kingdom. In early days, for security of trading, people banded themselves together in associations which were called trade guilds, and these soon developed into the famous committees of merchants' guilds, gaining enormous power. It was a most interesting story how the trade guilds, as opposed to the more select merchant guilds, gradually acquired powers of their own and then merged with the merchant guilds, and so became the nucleus of the municipalities. The development went on on the same lines all over the country, retarded here and accelerated there by local causes, but in all cases the result had been very much the same, whether the head of the community was the Lord Mayor of London

or the Lord Provost of Glasgow. There could be no doubt that the fine organisation which was controlled by the Glasgow Corporation was the result of small accretions and extensions from time to time, and that the Corporation was doing now for that great city much the same sort of thing that was done eight hundred years ago when market tolls and similar matters were regulated. In the south of England the efforts of various municipalities to obtain increased powers had been viewed with some disfavour, especially when they had gone into trading affairs, such as gas, tramways, &c.; he could not, however, but think that it was to the interests of the community that the corporation should control such monopolies, because, if properly managed, they must result in profit, and it was far better that the profit should be shared by the whole of the citizens than go into the pockets of private shareholders. He thought that even Glasgow might go further. They looked after the physical health of the people; why not look after their mental and moral health? They had municipal bands; why not municipal theatres, public-houses, and even music-halls? The cost of crime, pauperism, and drunkenness was considerable, and when this cost was increased by the wretched surroundings in which numbers of people of such a city were compelled to live, he thought that, from the money point of view, it would be well to take in hand the amusements and recreations of the people. He thought that some city like Glasgow might take the lead in this work. Glasgow had made enormous advance in greatness and in many other ways, but size was not everything, and it was to be hoped that the Corporation would take in hand the beautifying of the city and the brightening of the lives of its inhabitants.

BAILIE CLELAND, in response, referred to the absence on the high seas of the Lord Provost, who but for his departure on a well-earned holiday would have been present. It was always gratifying to the Corporation to know that their efforts in the interests of the city and their labours to promote the well-being of the citizens were appreciated and valued by those outside of the civic arena. It was to him, and he was sure he spoke for the remanent members of the Town Council, peculiarly pleasing to be assured of the good opinion which the Royal Institute of British Architects entertained of the Municipality of Glasgow. Their approbation, he took it, was not based on sentimental grounds, nor was it prompted by considerations of courtesy merely. He believed that in their hearty reception of the toast they deliberately wished to give expression to their sense of the important work which, in a variety of directions, the Corporation were endeavouring to perform. None of the important bodies who had visited Glasgow this year, and whom the Corporation had been delighted to honour, was in a better

position to judge of the value or otherwise of the various ramifications of civic enterprise than the Institute of Architects. The Corporation, in almost every one of its departments, was indebted to the architectural profession, for to it they must look for adequately housing the hundred and one interests which the Town Council controls. Much of the success which had attended the operations of the Corporation, and a great amount of the commendation which it had received from the strangers who had from time to time been within its gates, for the manner in which it has faced the various municipal problems, must be attributed to the enlightened manner in which their own staff of capable architects, as well as those talented professional men outside, whose assistance they had been fortunate in securing, had interpreted the requirements of the city, by designing not only handsome and ornate edifices, but also structures which combine with their external perfections commodious and appropriate internal equipment for the purposes for which they have been erected. He invited the members of the Institute of Architects during their meeting in Glasgow to inspect the various buildings in which the departments of the Corporation are housed, not to speak of the tenements of dwelling-houses which had been erected for the working-classes under the auspices of the City Improvement Trust, the policy of which had been largely controlled by the present Lord Provost, who had lived to see his efforts crowned with the most gratifying success. The tenements which the Corporation had thus erected were intended to supply the working-classes, at a moderate rent, with houses in which they would be able to live with their families under conditions of greater comfort and happiness than was possible in former days. He thought no architect could address himself to a nobler task than that of designing houses for the artisan classes of such a character as to secure at once a pleasing elevation to our public streets and a fit habitation which would more nearly interpret the proverbial phrase that "Every man's house is his castle" than had yet been possible. The idea had often occurred to him, when viewing the long vistas of our public streets, that greater variety might be introduced and a larger amount of genius displayed in the designing of ordinary street architecture, so as to do away with those continuous lines of tenements of almost geometrical formation, each one like its neighbour, which our present system presents in monotonous regularity. He knew that the answer to this statement would be that it had not been possible for architects to effect any great improvement in the direction he had indicated, as they were restricted by the requirements of their clients, whose desire often was to obviate unnecessary cost in construction, while securing all needful accommodation

and facilities. Builders might argue that, from an æsthetic and sentimental point of view, such designing might present a more artistic exterior, but that *that* had nothing to do with utility. Be that as it may, and whether we were all severe utilitarians or not, he could not allow this opportunity to pass without appealing to the gentlemen in whose hands the architectural reputation of the country rests to endeavour to break away from the hard and fast rules which apparently obtain in the matter of the domestic architecture of large towns.

EX-BAILIE SHEARER, in proposing "The Royal Institute of British Architects and the Allied Societies," traced the progress of the Institute since its foundation in 1834, and dwelt upon its objects. What greater boon could be given to a city than healthy homes? And what could make life in a city sweeter and brighter than the embellishment of that city by artistic buildings and beautiful parks. Although Glasgow was a city of toilers, they could point to beautiful spots in their midst, and to buildings worthy of a visit even from the Royal Institute of British Architects. Architects had taught them that light, airy, and sanitary dwellings for the poorest should be always associated with beauty of line and harmony of colour, and that grace, dignity, and beauty should always be associated with our public buildings; and that teaching they would strive to carry out. With the toast he coupled the names of the President of the Royal Institute of British Architects and the President of the Glasgow Institute of Architects.

THE PRESIDENT, in responding for the Royal Institute, said that it was the first time in the annals of the Institute that the dinner had been held in Glasgow. He would like to impress upon them this point, that the Institute is not the Royal Institute of *English* Architects, but the Royal Institute of *British* Architects. It took in the whole of the British Empire—England, Scotland, Ireland, and Wales, the Colonies, and India. In all these there were societies in alliance with the Institute. Their numbers, including the Allied Societies, amount to nearly 3,000. The Charter was granted by King William IV. in 1837, which year was also the first of the reign of Queen Victoria, who graciously became their Patron. In 1887, in order to bring the powers of the Institute more into line with the work it aspired to accomplish, and to render the fact of membership to a certain extent a test of proficiency, the supplemental Charter of the fiftieth Victoria, conferring among other privileges power to hold examinations and issue certificates or diplomas, was granted, the document receiving the Royal Sign Manual on March 28, 1887. Since then large numbers of candidates had each year presented themselves for examination. When they got a body of men like this spread all over

the Empire with one object in view, there ought to be no doubt of their success in their aims, and he did not think there could be any doubt as to the eventual success of their aims, which were the advancement of their art and the elevation of the profession of architecture. When at a great city like Glasgow, in a country the birthplace and home of so many eminent and shining lights in the history of culture and art and science, men were brought together from all directions as a means of promoting good feeling amongst the members of a great profession, and to extend its influence, there certainly should be good fruit borne. It was a peculiar pleasure to them to hold the first Royal Institute of British Architects' dinner of the new century in Glasgow with their Allied Society, for the people of Scotland had always taken a promising part in the advancement of the arts and a leading position in things appertaining to culture. Edinburgh had been dubbed our modern Athens. In Literature, the mention of only a few such names—as Burns, for instance, with his tenderness and descriptive power, passion, and love of Nature; or Professor Wilson, in the exuberant humour and force displayed in the “*Noctes Ambrosianæ*”; or Scott, whose works, apart from their magic, had done so much for the revival of Gothic architecture; or Thomas Carlyle, with his deep influence over all thinkers—claims for Scotland a place in the first rank of letters. In Painting, such names as Sir David Wilkie or Sir Henry Raeburn and David Roberts, the latter a name ever dear to architects, claim also for Scotland a foremost place in the rank of great painters. And in Architecture, men like the brothers Adam, Fergusson, and the Mylne family, who for generations had been designing and carrying out important works, were sufficient also to place Scotland in the first rank of architectural art. Of late years, if the experience of their Institute told them anything, it pointed to great progress in the work of their students in architecture, which should promise well for the future of their art in this new century, and Scotland was well to the forefront here. Many of the Institute's best medals and prizes had been carried off by the young architectural students of Scotland during late years, and the young Englishmen and Irishmen would have to look to their laurels. The Royal Institute of British Architects knew no partiality; progress in the art of architecture was what it wanted, and honour was given to whom honour was due. Glasgow itself and their Allied Society had done much for architecture of late years. The Art Galleries and Municipal Buildings, as well as many other works, proved its desire to foster an art in a manner worthy of the great Empire of which they formed a part, and the Exhibition buildings showed a restraint and excellence in this class of design which he had

only seen equalled or surpassed by the World's Fair at Chicago. No rococo extravagance of detail, but a fine monumental effect, grand and imposing—a city of palaces; and it was a pity the buildings were only temporary. At Chicago they had, however, the advantage of unlimited means; and a consensus of taste of a large committee formed of architects, artists, and sculptors, not only Americans, but also from the pick of Europe, ruled the schemes. He felt sure that the high objects and interests for which the Institute was formed and obtained its Charter—namely, the advancement of the art of architecture and the dignity of the profession—would be worthily upheld and maintained by the Glasgow Institute. From the work of architects would be derived the impression that future generations would have of our national greatness or meanness, our high or our low aspirations, rather than from all our wars, or even from all our other arts. It was, therefore, no mean task they found themselves engaged in at the beginning of this century, in striving to carry out the views of those who were the founders of the great Institute of British Architects. Let them pull well and honestly together, and their influence must increase yearly, and should, before long, obtain for them some proper legal recognition as a great profession on wise lines that would materially advance the ends they had in view. If advancement of the art of architecture was the principal of these ends, then the voice of the Institute and its Allied Societies should give no uncertain sound on all important public projects where architecture is concerned. In the extension, improvement, and rebuilding of our great Metropolis and of the large provincial centres, and also in great Government and other public buildings, surely it was the consensus of the architects' opinions which should be the guide and should carry the greatest weight. Much discussion took place in the press by artists, engineers, and Parliamentary Members, County Councilmen and others, on questions of public improvements and the erection of public buildings, but how often had any of these individuals the proper qualifications to lay down the law on such subjects? It should be the consensus of opinion of an Institute like theirs, with its Allied Societies, that should carry the most weight, if they would only, in a public-spirited manner, let themselves be heard on such matters. But if they expected their influence as a body of professional men or as an Institute to have weight, they must all be true to themselves and consistent in their conduct. He mentioned this because there seemed sometimes a spirit abroad that the rush for employment caused, either under the temptation of personal interests or of the chance of some great architectural prize, actions or words subversive of the very principles of professional conduct which they had themselves

laid down. Such action must quickly cause the influence of an Institute like theirs to wane, nor would their word or opinion on momentous public questions of policy with regard to their art receive much respect from the public or those in authority if it were found that their utterances were inconsistent or intended to serve selfish interests. Any influence their profession might be able to exercise—and its history of late years showed it had considerable—must be above suspicion and apart from party or personal ends. Let them do nothing to weaken their position, and endeavour to act amongst themselves as they wished the public to act by them.

Mr. J. J. BURNET [F.], President of the Glasgow Institute, said the Glasgow Institute had watched with intense interest the endeavours they had been making to increase the public appreciation of architecture in the Metropolis, and had recognised with no little pride the eagerness with which the counsels of the Institute had been sought, not only by the Government, but by the various municipal and other authorities throughout the country; and while in some few cases the advice of the Institute may not have met with the unanimous approval of the profession which one would have desired, he did not think that great weight need be attached to such criticism. In their art they learned to await the verdict of future generations, who alone were able to judge how far the men whom the Institute may have placed in important positions had warranted its choice and done honour to the profession to which they belonged. The Glasgow Institute, as a corporate body, as well as individually, were endeavouring quietly to meet the various responsibilities of our time, and he ventured to believe that the presence with them that night of so many of Glasgow's eminent citizens, and the reception given to the toast on this the first visit of the Institute to Glasgow, might be looked upon as some proof that their city was steadily growing in its appreciation of architecture. They could not hope that in a large commercial and industrial centre like Glasgow the art of architecture would be generally understood and appreciated, but they knew that amongst those responsible for the city's various municipal and private schemes there was a growing conviction that such schemes would remain monuments, not only of commercial and industrial enterprise, but as indicating their state of culture at the time and the need felt that their material surroundings should be in sympathy with their deeper needs and loftier aspirations. They looked forward with confidence to the growth of this feeling, eager to render themselves more competent to give expression.

The remaining toast, "The Guests," submitted by Mr. Campbell Douglas, was acknowledged by Mr. John Wilson, M.P., who referred to Glasgow Cathedral as a building which not only answered

the purpose for which it was designed, but owed its beauty, not to meretricious ornament, but to its form.

During the dinner and between the speeches Herr Iff's string band played a selection of music. The company dispersed after singing "Auld Lang Syne."

On Friday at one o'clock a large party of ladies and gentlemen, about 800, sat down to the lunch given by the Glasgow Institute at the Grosvenor Restaurant, in the Exhibition grounds.

After the meal the Chairman, Mr. J. J. BURNET, proposed the toast of "The King," and briefly but cordially welcomed the guests.

THE PRESIDENT, Mr. WILLIAM EMERSON, said that after the very hearty welcome the Glasgow Institute had extended to the Royal Institute they could not separate without toasting the President and members of the Glasgow Institute. In any profession like that of architecture the distance at which members practised from one another caused them to know very little of each other, and in the different localities in which they practised there were differences in views on certain public questions affecting architecture, and there were also different modes of working in most organisations. But such meetings as they were having in Glasgow tended very much to enlarge their minds by an exchange of views and by a realisation of the differences of opinion which existed. Moreover, there was rather a tendency to think slightly of people one did not see or know, but such meetings did away with such ideas. He had learnt a good deal during his visit to Glasgow, and he was sure others from the south had done so.

Mr. BURNET, in response, expressed regret that the visit to Glasgow had not been arranged for a longer period.

Mr. W. F. SALMON proposed "The Ladies," Sir Thomas Deane responding.

The company then separated, and at 3.30 assembled at the main entrance of the University, which stands on rising ground overlooking the Exhibition grounds. Then most of the buildings were visited, and at five o'clock tea was served in the Library, where Principal Story and other members of the Senate received members and their friends.

Invitations for the Corporation Reception at the City Chambers were timed for 7.30. The following was the programme:—

RECEPTION 7.30.
PROMENADE IN SALONS AND CORRIDOR TILL 8.40.
ASSEMBLE IN BANQUETING HALL 8.45.

MUSIC.

1. HERR IFF'S ORCHESTRA IN BANQUETING HALL TILL 8.40.
2. HERR IFF'S ORCHESTRA IN COUNCIL HALL, 9.30 TILL 10.30.
3. CORPORATION BAND IN CORRIDOR THROUGHOUT EVENING.
4. VOCAL MUSIC BY THE GLASGOW GLEE PARTY IN BANQUETING HALL, 9.15 TO 10.30.

At 8.30, according to invitation, Members of Council and one or two other leading architects and officials assembled in the Library, where they were met by Bailie Cleland and other magistrates in their robes of office, and in arranged order proceeded to the platform in the great Banqueting Hall.

BAILIE CLELAND having taken the chair, and cordially welcomed the members and friends of the Institute, remarked that Glasgow as a city had no reason to be ashamed of the examples of architectural skill which her thoroughfares presented, and he could safely say that in the city members would find many most interesting examples of both ancient and modern architecture. He felt that the influence of such meetings as those of the Institute of British Architects and of the other important organisations which had preceded it was of no ephemeral character, but rather of far-reaching and lasting importance on the life of the community in whose midst they were held.

Mr. EMERSON expressed the thanks of the Royal Institute of British Architects to the City and Corporation of Glasgow for their kindness to the members of the Institute during their visit to Glasgow. Glasgow had done a good deal in furtherance of the art of architecture, and no one could go about the city without learning something from the great public buildings which had been erected. He had been particularly impressed by a visit to the enormous power station for the electrical supply to the tramway system, where some of the engines had fly-wheels weighing 120 tons. Similar sensations could be caused by works of architecture, and probably no greater sensation could be caused than by a visit to a great cathedral. No one who went through the Glasgow Exhibition art galleries or saw the buildings of the city could fail to realise that the city took pains to encourage the erection of works which should be architecturally pleasing and interesting, and add to the lustre of the British Empire.

Mr. BURNET briefly addressed the audience, remarking that no corporate body of the citizens of Glasgow was more anxious to be of service to the city than the Glasgow Institute of Architects.

The company, to the number of 1,200 persons, then spread through the palatial building erected from the designs of the late Wm. Young, and enjoyed the entertainments which the munificence of the Corporation had provided. The gathering broke up at 10.30.

Not only are the most appreciative thanks of the Royal Institute due to the Glasgow Institute for their hospitality and the scrupulous care with which every detail was arranged to ensure the success of the visit, but the Dinner Committee of the Council are greatly indebted to the Glasgow

Executive for their valuable help in the matter of the Annual Dinner.

The late James Brooks [F.].

Mr. James Brooks, *Fellow* since 1866, for many years *Member of Council*, *Vice-President* 1892-96, *Royal Gold Medallist* 1895, died on Monday, the 7th inst.

Mr. Brooks was born near Wantage, in Berkshire, in 1825. He came to London about the year 1847 to study for the architectural profession, and was articled pupil to the late Lewis Stride. He attended Professor Donaldson's classes at University College, entered as a student of the Royal Academy, and attended the professorial lectures there. He commenced practice on his own account about 1852, and soon established for himself the career in which he has been so much distinguished, and in which he has enriched the neighbourhood of London and many country districts with some of the finest ecclesiastical structures erected during the later decades of the last century. He was architect to the Diocesan Society of Canterbury, and one of the consulting architects to the Incorporated Society for Building Churches.

A notice of Mr. Brooks's career and work will appear in a future issue of the JOURNAL.

The late John Littlewood [F.].

The death is announced of Mr. John Littlewood [F.], of the firm of Messrs. Mangnall & Littlewoods, of Manchester. He was born at Holmfirth, Yorkshire, and served his articles with Messrs. Travis & Mangnall, architects, of Manchester. On the death of Mr. Mangnall some thirty years ago, Mr. John Littlewood joined his brother in carrying on the business under the firm name of Mangnall & Littlewoods. In 1878 the two brothers obtained the prize of £500 for their design for the Manchester Corporation Gasworks in Bradford Road. More recently they designed the Campfield Markets, the Salford Corporation Baths at Broughton and Regent Road, schools and homes for the Chorlton Union Board at Withington, concert halls and pavilions at various health resorts. Among notable works of the latter description may be mentioned Morecambe Pier and Concert Pavilion, and the Empress Ballroom at Blackpool. Mr. Littlewood was elected an Associate of the Institute in 1882 and a Fellow in 1888.

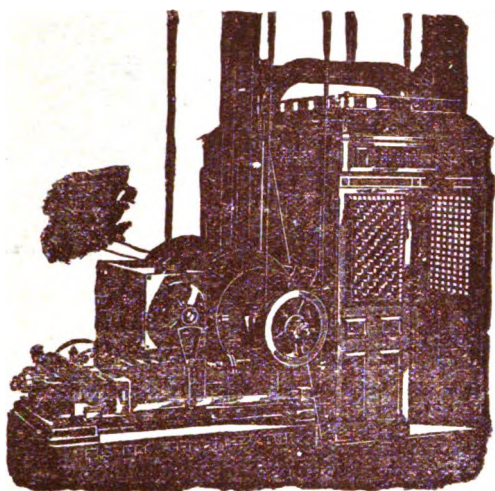
Bath and Malmesbury: Bell's Series.

Erratum.—In Mr. E. M. Hick's review in the last number of the JOURNAL, the description of the exterior view on p. 490 should be "BATH ABBEY: SOUTH TRANSEPT," not "Malmesbury Abbey," as there printed.

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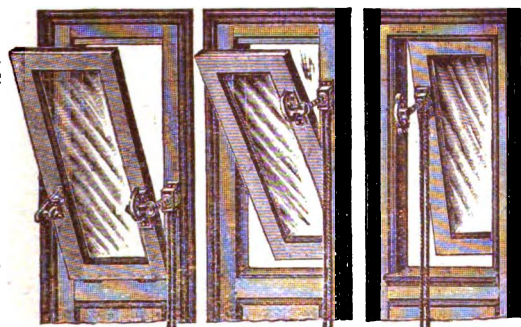
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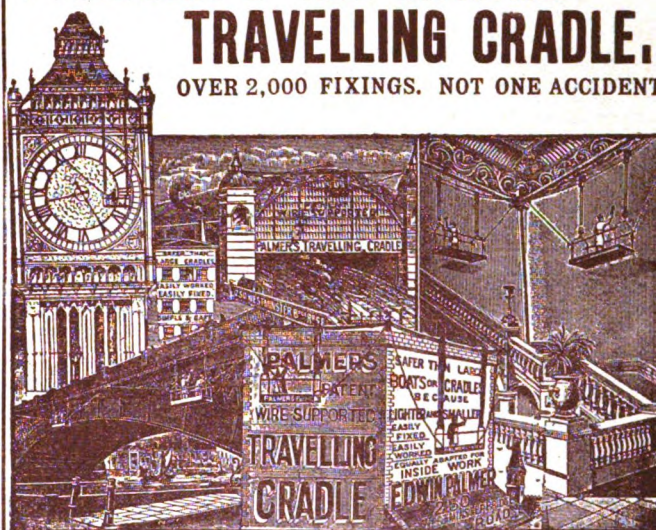
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